

GENERAL LIBRARY  
UNIV. OF MICH.  
OCT 19 1906

WEEKLY NEWS AND CONTRACT NUMBER

Volume XXI. Number 16

October 17, 1906

# MUNICIPAL JOURNAL AND ENGINEER



## Directory of Consulting Engineers, Engaged in Municipal and Public Work

**CAIRD, JAMES M.**, Assoc. Am. Soc. C. E.  
CHEMIST AND BACTERIOLOGIST  
Office and Laboratory:  
271 RIVER STREET - TROY, N. Y.  
Water Analysis and Tests of Filter Plants

**CHILD, STEPHEN**  
Landscape Architect and Consulting Engineer  
Rooms 511-12-13, Ford Building  
15 ASHBURTON PLACE, BOSTON, MASS.  
S. B. Massachusetts Institute of Technology, 1888. Member American Society of Civil Engineers. Telephone connection. Correspondence solicited.

**City-wastes Disposal Co.**  
156 FIFTH AVENUE, NEW YORK  
(Organized from the Staff of the late Col. George E. Waring, Jr.)  
Consulting and Contracting in Sewerage, Sewage Disposal, Garbage and Refuse Disposal and Street Cleaning.

**Denniston & Co.**  
Builders and General Contractors  
Rochester, N. Y.

**DOW, A. W., Ph. B.**  
CHEMICAL ENGINEER  
Consulting—Inspecting—Testing  
Specialties—Asphalts, Bitumens, Paving, Tarring and Oiling Roads, Paving Materials, Hydraulic Cements, Water-proofing  
NEW YORK CITY: WASHINGTON, D. C.:  
120 East 23d Street, 725 Bond Building  
Phone, 3351 Gramercy Phone, Main 2533 Y

**The Duluth Engineering Co.**  
613 Palladio Building - Duluth, Minn.  
Established 1881. T. F. McGilvray, M. Am. Soc. C. E., M. Am. W. W. Assoc.; W. B. Patton, C. E., Consulting Engineer, Ex-City Engineer, Duluth.  
Water Powers, Water Works, Sewerage, Bridges, Railroads, Electric Railways, Conduits, Paving and Road Making, Lighting and Power Plants, and Mechanical Installations of all kinds.

**FOLWELL, A. PRESCOTT**  
M. AM. SOC. C. E.  
Easton, Pa.  
Consulting and Designing Engineer.  
Sewerage, Water Supply, General Municipal Work.

**HERING, RUDOLPH, and FULLER, GEORGE W.**  
HYDRAULIC ENGINEERS and SANITARY EXPERTS  
170 BROADWAY, NEW YORK  
Water Supply, Water Purification, Water Power, Sewerage and Sewage Disposal. Examinations of Projects, Plans, Specifications and Estimates of Cost.  
Construction Superintended.

**HOWARD, J. W.**, C. E., E. M.  
PAVING EXPERT AND TESTING LABORATORY  
1 BROADWAY NEW YORK

**Hudson Engineering and Contracting Co.**  
27 WILLIAM STREET NEW YORK  
Branch Office  
518 WALNUT STREET, CINCINNATI, OHIO  
Bacon Patent Simple and Compound Air Lift Systems for Pumping from Wells and Surface Sources.  
Water Works and Artesian Well Systems Designed and Installed.

**Lederle Laboratories**  
518 FIFTH AVENUE - NEW YORK  
F. D. BELL, ERNST J. LEDERLE, Ph.D., D. Sc. J. A. DEGHUEE, Ph.D.  
Sanitary, Chemical and Bacteriological Examinations. Control of Water Supplies. Disposal of Refuse and Garbage.

*If you are not a subscriber you should be.*

**LEWIS & KITCHEN**  
ENGINEERS AND CONTRACTORS

For the Designing and Construction of Septic Tanks Garbage Crematories, Sewage Disposal Works.

ADDRESS

901 Broadway, Kansas City, Mo.  
433 Wabash Avenue, Chicago, Ill.

**MORSE, WILLIAM F.**  
CONSULTING SANITARY ENGINEER  
18 BROADWAY (Welles Building) NEW YORK  
The Disposal of Municipal, Institutional and Trade Waste. The Utilization of Municipal Refuse. The Production of Steam Power from City Waste.

**Newhall, John B., M. Am. Soc. M. E.**  
HYDRAULIC ENGINEER  
114-116 LIBERTY STREET - NEW YORK  
Telephone, 6259 Cortlandt  
Specializing: Underground Water Supply. Plans for Driven Well Plants. Examinations and Reports.

**Williams, Proctor & Potts,**  
Incorporated  
ASSOC. MEMBERS AM. SOC. C. E.  
CIVIL AND SANITARY ENGINEERS  
Sewers, Water Works, Sewage Disposal, Water Purification, Design and Superintendence  
17 BATTERY PLACE - NEW YORK CITY

**WISE & WATSON**  
CIVIL AND CONSULTING ENGINEERS  
Passaic National Bank Building  
Passaic - New Jersey  
Colin R. Wise  
City Surveyor of Passaic, N. J.  
Robert M. Watson  
Borough Engineer of Rutherford, N. J.

## The Gamewell Fire Alarm Telegraph Company

Fire and Police Alarms and Signal Systems  
Used the World Over

19 Barclay Street, New York City

## Books on Water Supply

THE ELEMENTS OF WATER SUPPLY ENGINEERING.—By E. Sherman Gould. 6 x 9 in.; 168 pp. \$2.00.  
WATER-FILTRATION WORKS.—By James H. Fuertes, member Am. Soc. C. E. 12mo, xviii + 283 pages, 45 figures and 20 half-tones. \$2.50.  
WATER-WORKS FOR SMALL CITIES AND TOWNS. Describing the methods of construction of the various portions of a water-works plant.—By John Gooddell. 281 pages, 53 illustrations. Price, \$2.00 net.  
THE PURIFICATION OF PUBLIC WATER SUPPLIES.—By John W. Hill, M. Am. Soc. C. E. 8vo. Cloth; 304 pages; 35 illustrations. \$3.00.  
WATER-SUPPLY ENGINEERING.—By A. Prescott Folwell. Second Edition, Revised and Enlarged. 8vo, xiv + 570 pages, illustrated with 95 figures and 10 full-page plates. Cloth; \$4.00.  
WATER-WORKS DISTRIBUTION: A Practical Guide to the Laying Out of Systems of Distributing Mains for the Supply of Water to Cities and Towns.—By I. A. McPherson, A. M. Inst. C. E. 8vo. Cloth, with Folding Plates, Diagrams and Illustrations. Price, \$2.50.

SUPPLIED BY THE

**Municipal Journal and Engineer**  
Flatiron Building, New York City

## SPECIAL NOTICE

In the respective following issues of the Municipal Journal and Engineer considerable space will be devoted specially to the subjects as indicated:—

—1906—

November 7th - - LIGHTING

—Gas, Electricity, Etc

December 5th - - CONCRETE



# MUNICIPAL JOURNAL AND ENGINEER

VOLUME XXI.

NEW YORK, OCTOBER 17, 1906.

No. 16

Published every Wednesday by

THE MUNICIPAL PUBLISHING COMPANY

Flatiron Building, Madison Square,  
New York City

Telephone, 6723 Gramercy, New York

Entered as second-class matter, January 3, 1906, at the Post Office  
at New York, N. Y., under the Act of Congress of March 3, 1879.

TERMS OF SUBSCRIPTION, PAYABLE IN ADVANCE  
United States and possessions, Canada, Mexico, Cuba, \$3.00 per year  
All other countries . . . . . 4.00 per year  
Make all checks payable to The Municipal Publishing Company.

Readers are invited to contribute to the MUNICIPAL JOURNAL  
AND ENGINEER, either in the form of special articles or of letters  
discussing matters of current interest.

It is also desired that the facilities furnished by the reference  
library in this office should be widely known and freely used by  
those interested in municipal affairs. Visitors will be welcomed  
and provided with conveniences for search, and inquiries by mail  
will be promptly dealt with.

## CONTENTS

Inspect the Fire Hydrants . . . . .	383
New York Through Parisian Glasses . . . . .	383
Pollution of Streams . . . . .	384
Norristown's Street Problems . . . . .	385
Electrical Power for New York Central . . . . .	385
Municipal News . . . . .	386
In Other Lands . . . . .	390
Personals . . . . .	390
Some Unusual Fires . . . . .	390
Wagons on Exhibit . . . . .	391
THE WEEK'S CONTRACT NEWS . . . . .	392
Bids Asked For . . . . .	392
Street Improvements . . . . .	393
Sewerage . . . . .	394
Water Supply . . . . .	394
Lighting and Electricity . . . . .	394
Fire Equipment and Supplies . . . . .	394
Public Buildings . . . . .	394
Bridges . . . . .	394
Street Railways . . . . .	395
Miscellaneous . . . . .	395
Incorporations . . . . .	395
Who's Who in Municipal Work . . . . .	396
Book Reviews . . . . .	396
Legal News—A Summary and Notes of Recent Decisions . . . . .	396
Convention Notes . . . . .	396
Calendar of Meetings of Municipal and Allied Societies . . . . .	397
Trade Notes . . . . .	398
Patent Claims . . . . .	399

### Inspect the Fire Hydrants

THE recent cold spell should serve as a reminder to Superintendents of Water Works that winter is rapidly approaching, and that all the fire hydrants under their care should be carefully inspected during the next few weeks and put into condition to live through extremely cold weather without interruption of serviceability. Such precautions are too often neglected or taken with insufficient thoroughness, resulting in unnecessary fire loss. A fire hydrant of correct design, properly laid and looked after, will not freeze, except under most exceptional circumstances; frozen hydrants are therefore a reproach

against either the department which has them in charge or the city which fails to respond to its demands. Out of thirty-seven cities, fifteen report hydrants having frozen last winter, imperfectly-acting drips and leaky valves being assigned as the principal causes in ten of them. But twenty-two cities report no hydrants frozen, thirteen of which were in the Southern States.

What should be done in the fall is to inspect every hydrant, seeing that the valve closes tight (a leak will cause a singing, detected by placing the ear to the valve stem), and that when it is closed the barrel empties rapidly through the drip. Also the pipe connection throughout should be at least four feet deep in this latitude, and six feet in Canada. If ground water is present, connect the drip-hole with a sewer or drain.

### New York Through Parisian Glasses

A WRITER to a recent periodical has rediscovered New York after a long sojourn in Paris, and is shocked to find here the following physical conditions to which the latter city lays no claim: The squalid, sagging, lurching wood-and-iron wharf line. Dirt, disorder, ugliness and vandalism; wobbly and cavernous sidewalks; overflowing garbage-boxes which pollute for the greater part of the day the approaches to even the most pretentious houses; and tardy emptying of ash-barrels, with disastrous results to eyes, lungs and raiment. Bent, battered, decapitated lamp-posts, sagging hydrants and hitching-posts, ragged, discolored awnings, clogged gutters and leaking waterspouts. The insistent shabbiness of the elevated roads; the gruesomeness of the subway stations; the misshapen, rusty, street-front fire-escapes. A shanty and a palace, a flaming billboard and a public monument, a squat stable and a sky-scraper, side by side. Barnlike ferry stations, rattling, reeking, unpainted horse-cars (New York has almost a world-monopoly on these), and steam railway tracks where there should be none. The choice between a detour into the street and a running high jump over bales, barrels and boxes on the sidewalks. The few beautiful features are in surroundings as inappropriate as a jewel in a pig's snout.

We are left in doubt, however, as to whether or not we are to be censured for bedecking with jewelry our pet porker, which is the acknowledged blue ribbon animal in its class. Unfortunately, a great deal of the criticism is just, and much of it is deserved by almost every city in the country. And it will do us no harm to be jarred occasionally by reminders of the nuisances whose blots on our municipal escutcheons it should be our constant aim to remove.

## POLLUTION OF STREAMS

Interesting Paper Prepared by Edwin B. Goodell—Rights and Duties of Riparian Owners, of Municipal Corporations and the Public.

THE following is quoted in full from a paper prepared by Edwin B. Goodell, on Water Supply and Irrigation, published by the U. S. Geological Survey:

In the nature of the case these rules can be only general, and many exigencies will appear in which more particular instructions must be obtained from the consultation of textbooks and decisions, or from the advice of counsel.

### I.—RIGHTS AND DUTIES OF RIPARIAN OWNERS

Every riparian owner has the right—

1. To use the waters of streams, navigable or otherwise, which flow across or along his property for the ordinary purposes incidental to domestic life and agriculture, including grazing.
2. To use such waters for water power and for all kinds of manufacturing purposes which do not sensibly diminish the quantity which flows on for the use of lower proprietors nor change the quality of the waters to any appreciable extent, nor interfere with the use of the stream, if navigable, by the public.
3. To have such waters flow to him from the premises of higher proprietors not unreasonably diminished nor diverted nor rendered impure by the farming or domestic uses to which the waters are subjected by higher proprietors.
4. To have such waters flow to him not sensibly changed in quality by any manufacturing or other uses to which they may have been put by higher proprietors.
5. To have such waters flow to him in their natural bed, unpolluted by any deposits of filth or any other substance in the bed or channel previously traversed by them. But 3, 4, and 5 do not apply to riparian owners in those States in which the doctrine of prior appropriation is the law.

Conversely, it is the duty of every riparian owner—

1. To so guard his use of the waters of streams which flow across or along his property for domestic and agricultural purposes as not unreasonably to divert, nor diminish, nor render impure such waters.
2. To refrain from every use in manufacturing which will divert or sensibly diminish the quantity of the waters which flow onward to the lower proprietors or render them appreciably different in quality.
3. To refrain from depositing any filth or other substance in the bed of such streams in such a manner or to such an extent as will cause the waters to flow to the lower proprietors out of their natural bed or will in anywise pollute them or render them impure.

Where the doctrine of prior appropriation is in force the appropriator must confine his use of the appropriated water to the use for which he has appropriated it and take only so much as is reasonably necessary to accomplish that purpose. He may not pollute the stream wantonly, nor by using it for purposes not included in his appropriation. Subject to these restrictions, the prior appropriator has the right to divert from the stream and use as much of the water as is necessary to accomplish the purpose for which it was appropriated.

### II.—RIGHTS AND DUTIES OF MUNICIPAL CORPORATIONS

Considered as corporate entities, municipal corporations have such rights and powers only as are conferred upon them by statute, either expressly or by necessary implication.

When, under due authority, they become the owners of lakes, reservoirs, and natural streams, they have the same rights to pure water, and are charged with the same duties as are other riparian proprietors.

If authorized to construct a system of sewers draining into a stream, such authority does not exempt them (except in the

State of Indiana) from the duty not to pollute the stream to the damage of lower proprietors.

The rights of property owners, specified in 3, 4, and 5 above, are property rights and cannot be taken away from owners for public use except upon payment therefor of an amount determined by constitutional condemnation proceedings authorized by statute.

Therefore, until municipal corporations have, by such proceedings, acquired the right of all lower proprietors and paid for them, they are required in all cases to refrain from the pollution of streams to the same extent as private owners.

### III.—RIGHTS AND DUTIES OF THE PUBLIC

By "the public" is meant that indefinite number of individuals, whether larger or smaller, who occupy as a common habitation a neighborhood, village, town, State, or country. Rights and duties which affect inhabitants of the neighborhood, village, town, State, or country as a whole, or a considerable but indefinite number of them, are called "public" rights and duties.

The public, in this sense, aside from the right to use navigable waters for commerce, has the right to enjoy the natural waters and the air which passes over them, so far as life and health are affected by these elements, in a condition so near that in which nature left them that their use will not destroy nor threaten life nor injure health.

And, reciprocally, the public, and each member of it, is charged with the duty not to pollute the natural waters upon which the community depends for life and health in any manner that will render the continued use of the waters, or of the air which passes over them, destructive of or injurious to the life or health of the community.

### PUBLIC RIGHTS AND DUTIES ENFORCED BY STATUTE

The rights and duties attempted to be expressed under III. have received some recognition by the courts apart from statutory enactments. They have been enforced chiefly, however, through legislation. These rights and duties have received full recognition, and an active effort has been made to provide an efficient sanction for their enforcement by the Legislatures of all the States included in Class II. and Class III., as hereinbefore stated. These classes include thirty-eight of the States and Territories.

These statutes, not being in derogation of common-law rights, have been construed as remedial statutes and not unconstitutional, although in some cases they may seem to interfere with prescriptive rights. No one can acquire by prescription a right to do an act which menaces public health or destroys public comfort.

It will have been noticed that public opinion, as expressed in public laws, is steadily progressing in the direction of a full, complete, and comprehensive enforcement of all the rights and duties of riparian owners, of municipal corporations, and of the public, as summarized above. Each advance in statutory regulation is an advance in that direction, and more especially in the direction of regulating and enforcing public rights and municipal rights and duties.

Private owners, from time immemorial, have been active in protecting their riparian rights as against other private owners. But the effect of pollution upon public health has not until a comparatively recent period, been brought prominently into notice. The pollution of streams by cities and private persons has, accordingly, not received the attention which it deserved. This state of affairs is now rapidly passing away. Courts have shown themselves fully alive to the existence and validity of public rights in that respect, and the Legislatures in Class III., comprising the States of Connecticut, Massachusetts, New Hampshire, New York, New Jersey, Minnesota, Vermont, and Pennsylvania, which has come into this class by legislation enacted in 1905, have made enactments calculated so to control such pollution as eventually to prevent all danger to public health.



## NORRISTOWN'S STREET PROBLEMS

That of Lighting at Reasonable Rate Solved by Municipal Plant—Paving Materials and Prices in Pennsylvania Town

Editorial Correspondence

NORRISTOWN, PA.—The lighting problem of Norristown, Pa., has been successfully solved by a municipal electric-lighting plant, established in 1898, which is furnishing the city with light at the rate of \$59.51 per arc lamp of 2,000 candlepower on an all-night and every-night schedule. The price formerly paid was \$80.00 per arc. The plant is used only for city lighting and is controlled by a permanent commission, composed of Ashley P. Hunter, John T. Dyer and George R. Kite, of which the latter is secretary, and to whom we are indebted for the following figures:

The cost of the plant has been \$43,368, on which is paid  $3\frac{1}{2}$  per cent. interest. Each year \$4,000 is set aside for a sinking fund. The cost last year for lighting the City Hall, Market House and engine houses was \$289.72.

The plant is operated by water power and consists of two Brush No. 11A type generators of 250 horsepower each. They are now trying as an experiment 100 new enclosed arc lamps, made by Warner Company, of Muncie, Ind., of which no reports are yet available.

## PAVING AND PRICES

Norristown embraces an area of approximately  $3\frac{1}{2}$  square miles. There are 37.57 miles of streets now open, and 26.86 miles unopened, a total of 64.43 miles. The amounts of the various kinds of paving in use follow:

Vitrified brick, 21,750 feet, or 4.11 miles.  
Belgian block, 7,440 feet, or 1.42 miles.  
Asphalt block, 1,013 feet, or .19 miles.  
Warren bitulithic, 18,893 feet, or 3.58 miles.  
Dirt roads, in proportion to streets opened, 37.00 per cent.  
Macadam roads, in proportion to streets opened, 38.25 per cent.  
Paved streets, in proportion to streets opened, 24.75 per cent.

The paved streets are unusually well laid and in good condition. The brick used was mainly McAvoy vitrified shale brick, laid in 1898 on a 4-inch concrete base, with 1-inch sand cushion, grouted with cement, at a cost of \$1.50 per square yard. Some State Line brick, laid in 1894, is still in good condition. The Warren bitulithic, laid four years ago at a cost of \$1.90, seems to be in good condition. A few new streets are being paved with Montello brick, also a vitrified red shale brick, on a 6-inch concrete base, with  $1\frac{1}{2}$ -inch sand cushion, grouted with an asphalt filler, at \$2.00 per square yard. The advantage claimed for the asphalt filler is that it offers a better foothold for horses, is less noisy, and takes up the expansion and contraction better than a cement grout, even when this is provided with expansion joints.

The question of how to finish a sheet pavement up to a car rail has been as difficult of solution in Norristown as elsewhere. The asphalt and bitulithic pavements have, for the most part, been laid directly against the rail. The general opinion is that a row of stone blocks should be laid as headers, and it is possible that this change may be made in some of the work already down.

## ELECTRIC POWER FOR NEW YORK CENTRAL

By a State law of 1903, the railroads which use the Park avenue tunnel, New York City, must, after 1908, use no steam in motors which traverse the tunnel. In pursuance of this provision the N. Y. C. & H. R. R. R. Company is about to substitute electricity for steam, not only in the tunnel, but for all its suburban traffic. For providing the power it has built two generating stations of power houses, one at Port Morris and the other at Yonkers, N. Y. Each of these will ordinarily deliver current to four adjacent sub-stations, from which, in turn, power will be supplied to the third rail.

The Port Morris generating station supplies power to the four sub-stations located at Fiftieth street in the new terminal yards, at Mott Haven, in the present railroad yards, at Bronx Park and at Scarsdale on the Harlem Division. The Yonkers generating station feeds the sub-stations located at Kingsbridge, Glenwood, Irvington and Ossining, on the main line of the New York Central. These two generating stations have been connected by one power transmission system, following the company's right of way along the Hudson River Division, and plans have been made for a duplicate to follow the right of way along the Putnam Division, Kingsbridge road and West 194th street.

The capacity of the two generating stations is such that either can supply sufficient current for the service allotted to both; the object being to prevent interruption of traffic in case of an accident to either station. For this purpose cables are to connect the two power stations, through which the current will be transmitted at 11,000 volts to the sub-stations; to be reduced to 660 volts before transmission to the third rail. These cables will be contained in a conduit, 2 feet 11 inches wide by 3 feet 3 inches high, in which will be ten ducts. The four sides of the conduit will be of 6-inch concrete, and through the center will run a 12-inch wall, leaving five ducts on each side, each about 5x6 inches. This heavy construction is due to the high voltage to be carried and the desire of the company to guard in every way possible against interruption of service by burnouts. About 400 feet apart will be splicing chambers or manholes, each to be divided into two parts by a middle concrete wall.

The highest voltages heretofore carried under the city streets have been 6,600 volts, but it is believed that the construction above outlined will avoid any danger to person or property either above or below ground, notwithstanding the large increase in volts to be transmitted.

The use of concrete masonry probably begins with the Romans, who employed it in road building and foundation work. Coming down from the time of the Romans, the ancient city of Ciudad Rodrigo has walls existing at the present day in which are buried large boulders of stone. These walls are in a good state of preservation at the present time; in fact, so much that they still bear the prints of the boards which made up the forms which held the concrete in its semi-liquid state at the time it was put in. It is an interesting matter to note that the modern practise of putting large masses of stone in concrete masonry follows exactly the scheme used in building these ancient walls of Ciudad Rodrigo. This method not only reduces the cost of the resulting fabric, but also makes it stronger.—*Exchange*.

## MUNICIPAL NEWS

**ALABAMA, Birmingham.**—Regarding fires caused by electricity, City Electrician Abernathy writes to the Mayor and Aldermen, in part, as follows:—"During the past month I investigated four fires caused by electric current. All of the fires were caused by high voltage current; that at the Bank Saloon by trolley wires and at the Hillman Hospital by high voltage wire falling across lines that supplied the hospital. This building was on fire on two or three floors. The wiring in this building is all in pipes. I also wish to call your attention to the network of wires on the main streets and alleys. Some of these wires carry a current as high as 2,300 volts, and invariably cause trouble during rain and wind storms."

**ARIZONA, Prescott.**—Property owners living near the railroad station have petitioned the Council to take steps to prevent the Standard Oil Company from erecting two oil tanks, on the ground that, if erected, they would depreciate property and raise insurance rates. The City Attorney was instructed to notify the company that no more distillate tanks would be allowed within city limits.

**ARKANSAS, Fort Smith.**—Ladies of the Civic League petitioned the City Council to purchase two hand pick-up sweepers, at a cost of \$50 each; also that the city contribute \$5 per day toward the cost of street cleaning. The Council is now considering a concrete curb and gutter ordinance. A proposition to narrow certain paved streets to a width of 15 feet is also under consideration.

**CALIFORNIA, Oakland.**—The population of Oakland is estimated by Postmaster Dargie at 225,000. On June 1, 1904, the population was 71,528, according to the United States Census Bureau.

**San Francisco.**—A report on the city's financial condition, forwarded to the State Comptroller, gives the following information: Net funded debt, \$4,126,290; value of city property, the largest items of which are parks, \$13,575,000; schools, \$6,000,000, and public buildings, \$4,500,000. The total assessed valuation of the city is \$375,968,472, as compared with \$502,895,359 in 1904. The total revenue is \$6,759,907, and the total tax rate, 1.798.

**CONNECTICUT, Waterbury.**—The breaking away of a section of the bank of the feed canal that carries water from Bulls Bridge to the New Milford Power Company's plant, at Merwinsville, shut off the power and light in several towns and tied up the trolley systems in Waterbury, New Britain, Plainville, Southington and Cheshire. In Waterbury an old steam plant supplied power for a limited number of cars.

**DELAWARE, Wilmington.**—A parade of garbage carts recently presented a unique spectacle on the principal streets of Wilmington. The occasion was the inspection of 24 new carts recently purchased by the city.

In accordance with a recent action of the Board of Health, the executive officers of the board will hereafter wear uniforms. The order was caused in part by complaints of persons who, representing themselves as officers, are in reality sneak thieves.

**DISTRICT OF COLUMBIA, Washington.**—According to the annual report of Electrical Engineer Walter C. Allen, the expenditures of all branches of the Electrical Department during the twelve months ended June 30, 1906, aggregated \$341,864.02. Within the year the department's system of underground wires was

increased by the laying of nearly ten miles of new cables, containing more than 150 miles of wires, and the number of fire alarm boxes was increased from 392 to 416. The Fire Department received a total of 1,006 alarms during the year.

One of the interesting statements in the report has to do with the number of poles of all kinds standing in the District, the total at the beginning of the new fiscal year on July 1 being 12,960. The lighting service of the city was increased by the addition of 163 lamps of all kinds, a total of 320 new lamps having been erected and lighted, while 157 were discontinued. The grand total of lamps in use on July 1, 1905, was 11,247, and on July 1, 1906, 11,410.

**FLORIDA, Jacksonville.**—In negotiations pending for several months and which were recently closed, the Jacksonville Electric Company agrees to transfer to the city of Jacksonville its franchise for electric-lighting and will retire from further competition with the city plant, thus giving the city the exclusive right to furnish electricity to consumers. The Jacksonville Electric Company operates the street railway system and has been furnishing light and power to consumers in competition with the municipal plant, doing a business of \$60,000 a year.

**Pensacola.**—The standpipe of the Pensacola Water Company has been so badly injured that it will not hold water. While repairs are being made water will be pumped into the mains direct.

**GEORGIA, Atlanta.**—Mayor James G. Woodward is very positive in his statement that the closing of his administration, at the end of the present year, will show a clean balance sheet and that no debts go over to his successor, W. R. Joyner.

**Augusta.**—The assets of the city, \$5,442,635, are nearly three times the debt, which is \$1,816,900. The population of the city at the close of 1905 was 41,897.

**Bainbridge.**—The City Council of Bainbridge has just named the new tax rate for this year at \$5 on the thousand, this being a reduction of \$3 from last year's rate. Bainbridge has for several years owned its own waterworks and electric plants.

**ILLINOIS, Chicago.**—Chicago is to have a downtown subway system. This fact became known when it was learned that the Chicago Union Traction and the Chicago City Railway companies have agreed to do away with downtown surface lines. A stipulation for a proposed underground system has been made in a new traction ordinance now being prepared by Walter L. Fisher, special traction counsel for the city, and representatives of the street car companies. The initial cost of the plan is \$5,000,000. The companies will operate under an indefinite agreement as to time, terminable by the city at will on six months' notice.

**Kankakee.**—Appraisers selected by the city to make a valuation of the Kankakee Water Supply Company's plant have compiled a list of the company's consumers and the rental each pays. The twenty years' contract under which the company operates has expired, and the city has the right to purchase the plant.

**Moline.**—During the past season 25,358 yards of asphalt paving have been laid, at a cost of \$65,705.34, and 39,158 yards of brick paving, at a cost of \$81,856.85, making a grand total of 64,516 yards of paving to be completed this fall, and then the work will be discontinued until spring. Forty-eight blocks of paving have been laid, which totals more square yards than ever before.



**INDIANA, Indianapolis.**—Two new drinking fountains are now being placed, making a total of fifty-nine such fountains in the city. These fountains will be erected with funds from a recent councilmanic appropriation of \$500 for the purpose. In addition to this, the Street Commissioner's Department is seeing that the well in North Meridian street, just off Washington, is driven twenty feet deeper than it was. The well was 180 feet deep, in rock, but the water from it has been condemned by the Board of Health on several occasions. For a long time the well has been completely out of use. If water is struck at 200 feet, the casing will be made tight to prevent the seepage of surface water.

**Richmond.**—Because water and gas companies have in many cases failed to repair streets after digging trenches, the Board of Public Works has sent written proposals to the companies in question, setting forth the city's desire to make such street repairs under the direction of the Superintendent of the Street Department, the cost to be charged up against the companies. In the last ten years it is estimated that the city has spent \$10,000 in going over work that these companies have done. In some instances parts of streets have been ruined. Members of the City Council will suggest that the next General Assembly consider a remedy.

**IOWA, Waterloo.**—Statistics recently compiled by interurban officials show that in the townships in the State of Iowa, where interurban lines have been operating, the population has increased considerably in the past few years, whereas the population of the State in general has decreased. In the townships between Waterloo and Waverly, through which an interurban line operates, the population, exclusive of the towns themselves, in 1900 numbered 3,845, and in 1905 the population was 4,805. The population of the townships through which the Iowa City & Cedar Rapids Interurban operates, exclusive of the towns, in 1900 amounted to 11,512, and in 1905 the population was 13,456. The township population between Des Moines and Colfax, exclusive of the towns, was, in 1900, 8,633. In 1905 the population in the towns through which the interurbans run has increased in almost every instance from 25 to 50 per cent.

**KANSAS, Baldwin.**—The Santa Fe Railway Company expects to send its landscape artist to lay out the tract adjoining the new depot in walks, flower beds and drives. The city will do the work and the road will furnish the material.

**Harper.**—The Mayor and Aldermen resigned when threatened with legal action for non-enforcement of the liquor laws. This paralyzed the city business for a while; the lights were turned off and the waterworks closed down. It is reported that the members of the Council held a meeting and reinstated themselves, declaring their resignations illegal.

**KENTUCKY, Louisville.**—The following is a statement of the amount expended by each department during the fiscal year 1906: Police Department, \$287,700; Fire Department, \$330,103; street cleaning, \$158,884; sewer cleaning, \$12,051; reconstruction streets, \$134,505; repairing streets, \$103,481; sewer construction, \$9,309; sewer repairs, \$4,070; sprinkling streets, \$1,239; Home for Aged and Infirm, \$22,620; City Hospital, \$60,420; Eruptive Hospital, \$4,929; Workhouse, \$25,850; Assessor's Department, \$18,916; Board of Public Safety, \$8,899; Board of Public Works, \$11,584; city officers, \$60,974; City Hall expenses, \$16,416; cis-

terns, \$3,443; cemeteries, \$737; city pounds, \$1,385; Engineer's Department, \$31,359; gasoline lights, \$12,208; incidental expenses, \$80,887; insurance, \$562; interest on warrants, \$1,736; Inspector of Buildings, \$3,720; Police Court, \$22,782; printing and stationery, \$18,355; pumps and wells, \$8,878; public lights—taxes, \$91,463; dividends, \$60,125; total, \$151,588; Receiver of Taxes, \$11,442; sanitary expenses, \$16,444; Veteran Firemen's Home, \$799; public baths, \$1,262; Secret Service, \$1,000; interest on city's notes, \$4,837; total, \$1,645,389.

The following is the opinion of the City Attorney, as expressed in a letter on the question of the authority to regulate the telephone rates:—

"Hon. Samuel A. Lederman, Chairman Revision Committee, Louisville, Ky.

"Dear Sir: I received your request for an opinion upon the question as to whether the General Council has the power to pass an ordinance regulating the charges of telephone companies.

"That the State has the right to regulate such charges within reasonable limits, and can delegate the authority to municipalities, can no longer be doubted. I am of the opinion that the Legislature has conferred this power upon cities of the first class, but at the same time it is due your committee that I should state that the question has not been definitely settled by the courts of Kentucky, and cannot be said to be entirely free from doubt until it has been passed upon by the Court of Appeals.

"Very respectfully,

"C. E. RICHARDS, City Attorney."

**LOUISIANA, New Orleans.**—The Commissioners of Gentilly avenue have asked for \$2,500 for maintenance of that avenue, an increase of \$1,100 over the usual appropriation. In spite of the increased cost of shells and other materials, the 20 miles of road have been taken care of. The assessment of 1906 on property along the road is five times as great as it was a few years ago. The making and maintenance of the road have caused the increase in values. It is the desire of the Commission to plant trees along the road and make it a boulevard.

**Shreveport.**—The city is supplied with gas from wells 20 miles distant, which were bored a few months ago. The charge is about 50 cents per month for domestic cooking. Factories are charged from 6 to 10 cents per 1,000 cubic feet.

**MAINE, Bangor.**—Because of the prevalence of typhoid fever in towns north of the city, especial precautions are being advised by Bangor physicians to prevent an epidemic of the disease here. Many of the towns where the disease is prevalent are on the Penobscot river and their sewage empties into that stream. The most threatening condition is at Old Town, where there are at least 15 cases. Notices have been sent out warning against the use of Penobscot river water unless distilled or boiled.

**MARYLAND, Baltimore.**—Superintendent of Lighting McCuen will in a few days complete the placing of the street signs at every intersecting thoroughfare in the burned district. These signs are attached to the arc-lamp posts. Where the street is broad, arc lights are located at diagonal corners. These streets are supplied with two signs, having the names of the intersecting streets printed on opposite sides of sheet-iron strips supported by an iron framework.

**MASSACHUSETTS, Boston.**—Six municipal gymnasias have been opened under the supervision of the Bath Department.

Out of 536 bakeries inspected by the State Board of Health, only 55 were found to be in a satisfactory sanitary condition. The board calls attention to the danger of contagion liable to arise from handling the bread,

and commends the plan of wrapping each loaf in prepared paper.

**MICHIGAN, Detroit.**—Commissioner Haarer makes the following estimate of the cost of paving between car tracks for a length of 66 miles: "The gauge of the tracks is 4 feet 8½ inches. The paving extends 12 inches each side of the rails. That necessitates foundation and paving of a width of 6 feet 8½ inches. Using 7 feet as a basis, it being easier to handle the even figures, and with 5,280 feet in a mile, there would be 36,960 square feet to the mile, or 4,106 2-3 square yards to be paved. With 66 miles of track, that would mean 271,040 square miles to pave. It costs less than 70 cents a yard to lay concrete. Laying 12 inches of concrete under the rails and 6 inches above, the concrete alone would cost \$2.10. The brick costs about 75 cents a yard, and 25 cents for laying it. That would make the total cost about \$3.10 per yard, or \$840,224 for the 66 miles."

**MINNESOTA, Minneapolis.**—If the Water Department received pay for the water that is furnished free to various departments and institutions, it is estimated that the revenues would be increased by fully \$165,175. The total revenue last year was \$265,496. It is estimated that the waterworks supplies each year 1,297,735,000 gallons for street sprinkling and flushing, sewer flushing, to the public schools, parks, police and fire stations, horse fountains, State University and other public institutions. At the rate of 7 cents a thousand gallons this would amount to \$90,800. If an allowance of \$20 a year is made for each of the 3,740 fire hydrants, which is far below the average, the department is entitled to further credit of \$74,800.

**MISSISSIPPI, Speeds.**—The City Council of Speeds Addition at a recent meeting increased the tax rate from 4 to 12 mills. This will give a net increase in the annual collection of taxes from about \$1,000 to \$5,000. It is learned that the intention in raising the tax, which will apply to all real and personal property, is to raise sufficient funds to better the present Fire Department facilities by installing several fire cisterns and getting horses for the gasoline apparatus. The question of getting the waterworks mains of Vicksburg extended has been discussed for some time, but the plan of owning cisterns, with plenty of hose, and a fire engine, is deemed to be the best and most popular method.

**MISSOURI, Maryville.**—With the completion of a three-mile brick paving contract, Maryville will have more miles of brick streets than any other town of 7,000 inhabitants in the United States.

**St. Joseph.**—The police judge of St. Joseph fined a deaf and dumb man \$25 for peddling needles without a license. The mute suddenly recovered his vocal powers and begged for leniency. Then it was the judge's turn to be deaf.

**MONTANA, Helena.**—Recently the city of Helena determined to plant a forest of fir and pine on Mount Helena in the outskirts of the city as a park. Last spring 30,000 seedlings were planted there, and this fall about 10,000 more will be planted.

**NEBRASKA, Omaha.**—Following an open invitation for bids to furnish dollar gas, the Omaha Gas Company, controlled by the United Gas Improvement Company, of Philadelphia, has come forward with a proposition to sell gas for a dollar in return for a 30-year franchise and a royalty of 3 per cent. instead of 5 per cent., as at present.

**NEVADA, Tonopah.**—Nye County, in which Tonopah, Bullfrog and Manhattan are located, is believed to have the largest population of all the counties in the State, the registration of voters taken recently showing it to have 4,500 electors, which is 500 more than registered in Washoe County, in which Reno is situated. Estimating upon the registration, the population of Nye should be 22,500, while that of Washoe, heretofore the largest in point of population, is about 19,000.

**NEW HAMPSHIRE, Concord.**—The Attorney General has given an opinion to the State Board of Health that lakes which are only drawn upon by summer cottagers and campers are nevertheless under the jurisdiction of the Board of Health as public water supplies. This opinion was given in response to inquiries made by the towns of Meredith, Ashland, Center Harbor, Sandwich and Moltonsborough.

**NEW JERSEY, Newark.**—County Engineer Owen read a paper on the use of tar for country roads before the Board of Freeholders. He dwelt with much detail upon the technical side of road construction and expressed the belief that in order to keep roads up to the present high standard, a much greater expenditure of money will be necessary than in years past. He considered the dust nuisance and pointed out how it worked a positive injury to abutting property, as well as being a continual annoyance to the traveling public. Water, tar and crude oil are three mediums used nowadays to abate this nuisance, and the experiments made in England, France and this country were referred to. After tar is spread upon the road surface in France, it is sprinkled with sand, gravel being rejected because it breaks the surface of the tar. "Tar seems at present to give the best results," the paper concluded, "but there are other materials now being used that demand favorable consideration."

**NEW YORK, New York.**—Formal announcement of completion of negotiations of the purchase by the city of Ninth street ferry property, which operates a line of boats between the lower end of Manhattan and Brooklyn has been made by Comptroller Metz. The price to be paid by the city is \$750,000, a reduction of \$350,000 from the price originally issued. The city already owns and operates a line of ferry boats between lower Manhattan and Staten Island.

**Watertown.**—In the erection of the marble and bronze fountain presented by Mrs. Roswell P. Flower, the old iron watering trough given by Moses Eames has been removed from Public Square and consigned to the scrap heap. There are those who would rescue it and have it put back in the east end of the square.

**OHIO, Columbus.**—The designing of a municipal flag has been entrusted to a committee by the Common Council. The committee will confer with business men and members of various organizations.

**Kenton.**—A new traction company, promoted by W. H. Ogan, will build a line from Lima to Marion, via Kenton. The line will be the first in the country to use the new Strang gas electric cars.

**Massillon.**—The city will soon commence work on constructing crosswalks in the streets where sidewalks have been laid this summer. Two thousand dollars has been appropriated for this work. More cement and stone sidewalks have been built in Massillon this summer than in any other in the history of the city. This is due to the activities of the Council early in the spring.

**Toledo.**—Out of 25 samples of well water analyzed thus far this month 17 were found to be unfit for drink-



ing purposes. Placards will be placed on these wells, advising people to boil the water. There are now forty cases of typhoid placarded on the charts.

**PENNSYLVANIA, Harrisburg.**—The new State capitol stands on a slight eminence, with its principal façade toward the west. Vermont granite, almost white in color, forms the outer walls of the building. The style of the building is Renaissance. Some idea of the vastness of the capitol can be gained by its dimensions. Its length is 520 feet, the breadth through the center line is 254 feet, and through each of its side wings is 212 feet. The height of the main horizontal line above the balustrade is 100 feet; from the ground to the top of the statue on the dome is 272 feet. A massive and beautiful dome crowns the building.

**Philadelphia.**—New specifications for street cleaning will divide the work in sections of great squares, each of 10,000 square feet. The cost of this work was first estimated at 50 cents for each sweeping, but has since been reduced to 25 cents.

A committee of real estate experts has reported that the cost of land to be condemned for the proposed parkway, from Logan Square to Twenty-fifth street, will be \$1,849,224. By reducing the width of the parkway from 250 to 200 feet, it is likely the plan will be carried out.

On the eve of trial, with Mayor Weaver's approval, City Solicitor Kinsey agreed to a settlement of the suit of Ryan and Kelly, for money unpaid on a filtration contract, for nearly the whole amount claimed, less interest.

**RHODE ISLAND, Newport.**—The women members of the Civic League have formed themselves into a board of censors with the suppression of objectionable billboard posters as their particular object. An advertisement which recently covered nearly every billboard in the city was considered by the women members of the League to be improper and they demanded that the billposter cover the boards with "paper" which was not objectionable. The billposter declined to do so until he was assured of the support of the League, a majority of the members of whom were wealthy. He was given the necessary promise and an agreement has been entered into whereby a committee of the League will hereafter pass upon all advertising literature before it is posted on the billboards throughout the city.

**Woonsocket.**—At a recent conference with Mayor Adelard Archambault and a committee of the City Council, President Frank E. Holden, of the Woonsocket Gas Company, stated that in view of the fact that the gas company had made a voluntary decrease in the price of gas, he did not think the company could do more at this time, but that when conditions warrant it, another reduction would be made. Woonsocket, it was stated, is a very poor gas city, consuming only about one-fifth the amount of Pawtucket, whose population is only a few thousand more than Woonsocket. It was stated that the Pawtucket Gas Company is enabled to offer prices of \$1.10, \$1.05 and \$1 per thousand, in five-year terms to Central Falls, Lincoln and Cumberland, on account of the surplus gas made in Pawtucket. It was decided by the committee to employ an expert to look into the gas situation on behalf of the city.

**SOUTH CAROLINA, Anderson.**—The prospects for the early establishment of a hospital are now much brighter than they have ever been. The committee, to whom was entrusted the duty of raising funds, has already secured \$8,864.35, and when all the citizens who have not contributed are seen the total amount

will run up to \$12,000 or \$15,000. A great deal of the credit for the successful issue of the plan to build a hospital is due to the efforts of the women of the city. The cost of the building, it is estimated, will be about \$15,000.

**Orangeburg.**—The pay roll of the city for work done on the streets last week was the smallest in the past seven years. On account of the scarcity of labor, it is almost impossible to secure hands for the streets. There were working last week only four men and they were driving the trash carts. The pay roll amounted to something like twenty dollars.

**TENNESSEE, Knoxville.**—Agitation is strong for better streets, and much work will undoubtedly be done during the coming season. At a recent meeting of the Street Committee of City Council, the Commissioners of the Improvement District and many prominent citizens, the matter was thoroughly discussed. Those present expressed themselves and the opinion seemed to prevail that brick will be preferable for the heavily traveled streets and sheet paving for the residence portion. Efforts will be made to have contracts for part of the work awarded at the earliest possible day.

**Memphis.**—At a recent joint session of the Legislative Council, over which Mayor James H. Malone presided, he appointed a committee to inquire into alleged irregularities in connection with the purchase of live stock by the Board of Police and Fire Commissioners, and other matters to safeguard the interests of the city. The Mayor also sent a communication to Chief of Police George T. O'Haver, threatening his suspension in case he fails to suspend subordinate officers who fail to bring offenders against the gambling laws to justice.

**TEXAS, Fort Worth.**—A map of the sewers and water pipes is needed. Recently, as a city gang was repairing the Sixth street storm sewer, an unmapped sewer was located. At another time several men worked three or four days searching for a sewer to make a connection for a school house. All work done in recent years has been properly mapped.

**UTAH, Salt Lake.**—At a meeting of the Board of Governors of the Civic Improvement League, Orson H. Hewlett spoke in favor of a form of city government vesting authority in four City Commissioners. This board would appoint an auditor, treasurer, recorder and attorney. It was suggested that the work of the board be divided as follows: Street Commissioner, Commissioner of Waterworks and Sewerage, Commissioner of Finance, Revenue and Public Property, and Police and Fire Commissioner.

**VERMONT, Montpelier.**—At a largely attended special meeting it was unanimously voted to build a new City Hall with vaults, auditorium and a memorial room dedicated to the veterans of the Civil War.

**VIRGINIA, Norfolk.**—The Board of Control has notified the Western Union Telegraph Company to place all its Main street wires underground.

At the Jamestown Exposition the Municipal Improvement Division of the Social Economy Exhibit will be under the charge of the American Civic Association. The Waring system of rural sanitation will be exhibited. The Good Roads Department will receive models, pictures and statistics from the New Jersey Highway Department. The National Civic Federation will show model homes for workingmen.

**Portsmouth.**—It is proposed to turn a marsh, near the approach of the navy yard, into a park. The extension of Crawford street in this direction would shorten the distance from the Fourth Ward to the business section of the city.

**WASHINGTON, Seattle.**—The improvements to be made with the \$2,250,000 recently voted include running a second pipe line from the Cedar river intake to a new reservoir, which will be built at the edge of the city on Beacon hill, with a capacity of 100,000,000 gallons. The city is divided into three levels, and when the new reservoirs are built there will be storage facilities for 200,000,000 gallons, including 50,000,000 for high pressure service. The cost of the pipe line will be \$1,004,000. The balance will be expended in the construction of reservoirs and distributing mains.

**WEST VIRGINIA, Wheeling.**—The crematory does not appear to have sufficient capacity to handle the garbage as fast as it is delivered by the contractor. A new one will be built.

**WISCONSIN, Green Bay.**—Mayor R. E. Minahan advocates a "street warming" on the completion of the asphalt paving, on Washington and Adams streets, by Andrews Company. The mayor believes that the traction companies would offer low rates and bring in two thousand people from the country to participate in the festivities.

**Milwaukee.**—At the Wisconsin Association of Master Bakers, a speaker stated that there were 300 bakeries in Milwaukee. In order to make four calls a year on each shop the whole time of an inspector would be required.

## IN OTHER COUNTRIES

**BRAZIL, Rio Janeiro.**—The municipal government in conjunction with the federal government is widening and lengthening the streets and constructing new ones. The federal government has already constructed a large avenue, a mile and a half long, by a hundred and twenty feet wide, starting from the docks and traversing the commercial part of the city, forming a thoroughfare unsurpassed on the continent of Europe. When the land was expropriated for this undertaking a sufficient width was acquired to provide for building lots on either side. The avenue was then built and when completed the lots were put up at auction and realized a sufficient amount to cover the whole cost of the improvement.

**ENGLAND, Basingstoke.**—After the recent outbreak of typhoid fever at Basingstoke, the cause of which was traced to the town water supply, the Borough Council had fifty actions for damages entered against it in the high court, the sum claimed as damages being nearly £4,000. A committee of the claimants was formed, and this committee agreed to meet a committee of the Ratepayers' Association to adjust the claims, and the result has been that the Council has agreed to pay £1,670, 15s. in settlement of the fifty actions. Since the epidemic the town has gone to a fresh source for their water supply.

**Bolton.**—Bolton, like Nottingham and Darlington, has embarked upon municipal enterprises on a large scale, and has profited by it. The total profits by which the rates were reduced last year amounted to no less than £37,288, which represented a rate relief of 1s. 2¾d. in the £. In other words the rate at Bolton was 7s. in the £; had it not been for the profits from municipal enterprises the figure would have totaled 8s. 2¾d. Anti-municipalists at Bolton are scarce. The town owns the water, gas, electricity, and tramways undertakings, in addition to markets, museums, slaughterhouses, ice stores, baths, and washhouses. In short, nearly everything which a well-organized community should possess has been provided by the Bolton Corporation, and yet its rates are lower than the average rate of London, where there is very little municipal enterprise in industrial undertakings.

## PERSONALS

**BLACK, WILLIAM M.**, Lieutenant Colonel, Corps of Engineers, U. S. Army, formerly Engineer Commissioner of the District of Columbia and a sanitary expert of the highest standing, who has been in charge of the river and harbor work in the vicinity of Portland, Me., has been ordered to Cuba, where he will assist the medical authorities in improving the sanitary conditions of Havana and other cities.

**BROUSE, MACY**, Mayor of Kokomo, Ind., died recently, at the age of 38 years.

**CROWELL, THOMAS R.**, has been elected City Engineer of Lebanon, Pa.

**DALLIN, CYRUS E.**, of Boston, Mass., has had his design of the \$70,000 monument to be erected at Syracuse, N. Y., selected from those submitted by seven sculptors in competition. The jurors were J. Q. A. Ward, of New York City, and Daniel C. French, of Glendale, sculptors; C. Howard Walker, Boston, Mass., and two local members.

**HARDING, MAJ. CHESTER**, Corps of Engineers, U. S. Army, recently relieved of the duties of Assistant Engineer Commissioner of the District of Columbia, has been assigned to relieve Maj. William C. Langfitt of command of the Engineer School and of Charge of the Engineer Depot, Washington Barracks, Washington, D. C.

**JACKSON, PROF. DUGALD C.**, head of the Electrical Department of the University of Wisconsin, has been appointed to take charge of a similar department at the Massachusetts Institute of Technology, vice Dr. Louis Duncan, who resigned eighteen months ago.

**MEREDITH, D. W.**, of Cedar Rapids, Ia., is making estimates for waterworks for West Branch, Ia.

**MEYER, DR. R. C.**, Health Commissioner of Moline, Ill., Walter Kent, Chairman of the City Council Committee, Alderman Henry J. Gripp, and several other officials of the Illinois city, recently made a trip to Minneapolis, Minn., to inspect the garbage reducing plant.

**MILLIGAN, L. M.**, of Warren, O., is engineer for waterworks and a sewerage system for Chardon, bids for which will be invited early next year.

**POTTER, ALEXANDER**, of New York City, has been engaged to make surveys, plans and estimates for a \$40,000 sewer system for the village of Oxford, Ohio.

**ROBERTS, PROF. W. J.**, of Pullman, Wash., has been engaged by the city of Spokane to examine water conditions in the vicinity for the purpose of furnishing the city with a good supply.

**ROBIN, DR. A.**, City Bacteriologist, and Chief Engineer Theodore A. Leisen of the Waterworks Department, of Wilmington, Del., recently returned from an inspection trip to Washington, D. C. Chief Leisen said the sand filter, recently installed, is not responsible for the typhoid fever epidemic in the National capital, as it removes all but fifteen bacteria per cubic centimeter.

**ROSSETTER, HADLEY R.**, Mayor of Argentine, Kan., H. J. Smith, City Attorney, and the members of the City Council recently made a visit to inspect the gas wells at Stanley, fifteen miles south of Argentine. The owners have submitted a proposition with a guarantee to supply 1,500,000 cubic feet of gas per day at twenty-five cents per thousand.

**SWEARINGEN, C. W.**, who resigned as City Engineer of Great Falls, Mont., in May, 1903, to superintend the installation of a system of waterworks and sewers and the making of other municipal improvements at Havre, Mont., has been reappointed to his old position.

**TYSON, FILMORE**, Chief of the Louisville, Ky., Fire Department, recently had as his guests Mayor Flynn and Fire Chief Enlow, who are making a tour of inspection with a view of making improvements in the Jeffersonville Fire Department.

## Some Unusual Fires

**BOSTON, MASS.**—Car barns of the Boston and Northern Street Railway Company, burned, September 27. Cause, incendiary. Damage, \$300,000.

**CLEVELAND, O.**—Pittsburg Plate Glass Company's Building, burned, September 28. Cause, explosion of oil. Damage, \$200,000.

**LOS ANGELES.**—Chamber of Commerce, burned, October 9. Cause, unknown. Damage, \$100,000.

**MERCERSBURG, PA.**—Stable and other buildings, burned, September 28. Engineer off duty; no one on hand to put fire pressure on water mains.

**NEW YORK CITY.**—Woodwork in Pennsylvania East River Tunnel, burned, October 11. Three men suffocated. Cause, defective electric wires.

**TORONTO, ONT.**—A six-inch gas main exploded, September 29. Sixty windows broken; twenty-five thousand cubic feet of gas escaped. Damage, \$25,000.

**MONTREAL, QUE., CANADA.**—Fourteen buildings burned, September 27. Defective water supply. Damage, \$100,000.



## WAGONS ON EXHIBIT

All Styles, Shapes and Sizes of the Dump Variety Shown  
at Carriage Dealers' Annual Exposition,  
New York City

THE thirteenth annual exposition of the National Carriage Dealers' Protective Association, held October 8-13 at the Grand Central Palace, Lexington avenue and Forty-third street, New York City, contained one of the largest and most interesting collections of contractors' dump-wagons that has ever been exhibited. Although several large manufactures were not represented, there were shown altogether about twenty different types of dumping wagons or wagon bodies, the product of eight factories. As an illustration of the growth of the industry, it is worthy of note that about four hundred patents have been granted for devices used in vehicles of this class. The growth of the good roads movement is rapidly introducing the self-dumper, even into country districts. The exhibits, with a few striking details, follow:

*The Auburn Wagon Company, Martinsburg, W. Va.*, placed on exhibit its latest invention in dump-wagons, comprising some quite original features. The wagon bed is wider at the bottom than the top, to facilitate free dumping of sticky materials. The chain is wound on a vertical arbor provided with a crank; the bottom doors are released by pressure on the lever side of the crank. A chain passing along underneath one door and over a suitable device in the rear raises both doors to place. The fifth wheel has a rocking king-bolt to keep the body level over rough roads.

*The Columbia Wagon Company, Columbia, Pa.*, exhibited a new rear-end dumper. The manufacturer reports a demand for a wagon of this design for work where the drop-bottom wagon cannot be used; accordingly they make a very heavy wagon, strongly ironed for hard usage. Another wagon, the Josiah F. Day patent bottom dumper, has chain hinges; the bottom is raised by crossed chains, front and rear, operated from an arbor under the driver's seat. A new bottom dumper, with a single chain running under both doors and over an equalizer in the rear, and with one winding point under the seat, was also exhibited.

*The Eagle Wagon Works, Auburn, N. Y.*, owners of the Van Wagenen patents, exhibited their bottom dump wagons. They claim special merit in the construction of the wagon bed; grooves are cut in the sides for each end board and grooves are cut in the end boards, through which steel rods pass, binding the sides and ends together. The bottom doors are lifted by a single chain, passing under both doors and over an equalizer at the rear of the wagon. This equalizer is an eccentric, which falls side-wise as the doors drop, making the chain longer on one side; the door with the long chain comes up last and laps over the other without interference. The bottom of this wagon is wood, with an angle iron at the ends of doors, lapping over the ends of the wagon box to keep it tight. In the all-steel wagon of the same design, the steel plates of the bottom doors lap over the sides of the wagon. An Eagle dump box is made to fit any ordinary gear by means of an extra bolster of reasonable thickness.

*The Everett Manufacturing Company, Newark, N. J.*, had on exhibit a portable gravel-dumping bed made to fit any gear wagon. The bottom consists of four doors, running the whole length of the wagon; the two inner doors swing on an axis in the center line of the wagon and protect the reach while dumping. By the dropping of a truss which supports the center of the box cross-wise underneath, when loaded, the doors are released. The driver accomplishes this with a quick pressure of his heel and eight motions of his foot closes the wagon again.

*The Henry M. Glen Wagon Company, Seneca Falls, N. Y.*, exhibited a combination dumping and spreading wagon, known as the "Atkins Spreading Wagon." The peculiarity of this wagon is that the doors are swung from the sides by steel swinging straps, the doors moving one forward and one back; they may be adjusted to open as little as desired for use in spreading, or may be elevated higher than the bottom of the wagon body, so as not to strike the unloaded material when the team starts. The Atkins contractors' dump wagon has bottom doors swinging from the sides of the box. The chain is single and is fastened on the rear end board through grab holes, where it may be adjusted for spreading; and it is carried on the bottom of doors over rollers

to the winding arbor in front; a spiral spring on the end board brings up one door ahead of the other, providing a lap joint as well as taking up all slack in the chain. The manufacturers claim that this is a superior device. An Atkins dump box, with four bottom doors, made on the general lines of the wagon, is also shown.

*The Haywood Wagon Company, Baldwinsville, N. Y.*, had on exhibition an all steel end dumping wagon, with automatic end board. This wagon is built on lines similar to those of the company's garbage wagon; care has been taken to equalize the load between the two axles; the wagon is dumped by setting the brake on the rear wheels and backing the team. Bottom dumpers—both steel and wood—are shown. The chain governing the opening and closing of the doors passes under each door, forming a truss. An automatic device in the rear closes one door ahead of the other. In the steel wagon, the door plates lap over outside the wagon box. The Haywood spreading wagon has one door, flanged on the sides, discharging its load in the rear through an opening varied in width, as desired.

*The Milburn Wagon Company, Toledo, Ohio*, presented a new type of wagon recently placed on the market. The manufacturers call attention to the fact that there are only two pieces of malleable iron in this wagon, all others being of wrought iron. This is a bottom dumper, with chain passing under one door. A specialty is the cone-shaped worm on the winding arbor, which allows rapid drawing together of the doors at the beginning of the operation. No springs are used in connection with the locking and releasing devices; when the wagon is closed two dogs drop into position on the gear, forming a double lock.

*The Troy Wagon Works Company, Troy, Ohio*, exhibited its bottom dump wagon. A long steel shaft, running the full length of the box, gives a positive movement to the front and rear chains which wind on spiral drums, closing first the right-hand door and then the left, the latter lapping over about two inches. Special merits are claimed for this wagon box in regard to tightness; a steel angle laps over the end boards, and on the sides the steel doors are bent up to accomplish the same result. This is claimed to be the only bottom dump wagon built with a leaf spring on the rear axle under the rear of the body, which, the manufacturers say, adds 40 per cent. to the life of the wagon. This wagon is iron throughout, with forged steel. The pole is especially stiff, and will support the weight of a man even without the king-bolt.

### INDUSTRY'S STEADY ADVANCE

The visitor at this exposition, who has kept informed regarding the construction of contractors' wagons, could not fail to be impressed by the advances in the industry in recent years. The stick wagon, with its one representative, seems likely to go out of use except in connection with a portable self-dumping body. The end-dumping wagon, of which there were two exhibits, has perhaps arrived at a stable state of development. Its use, where a tight body and a short wheelbase are desired, is well established; for hauling brick when dumping is customary, as in New York City, its position is assured. The greatest improvements, however, have been made in bottom dumpers. Advantage has been taken of experience with the earlier forms of various wagons, and improvements in the way of greater durability and more perfect action have been made.

To avoid damage through the racking movement of the wagon going over rough ground, castings have been replaced by wrought iron, braces and reinforcements have been added, iron plates have been bolted to the neck of the wagon where the strain is greatest, and it has been sought to relieve the strain by improvements in king-bolts and fifth wheels, all designed to give the front wheels freedom of motion and prevent straining the wagon. Wagon beds have been made not only to fit tighter when new, but also to keep their shape after use. Simplicity and greater strength in the dumping and locking machinery have contributed to the construction of a wagon of greatly increased efficiency.

## THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Buildings, Bridges and Street Railways—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

### BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
<b>Street Improvements</b>				
Connecticut.....	East Windsor.....	October 18, noon.....	Construct two sections, macadam road.....	E. M. Granger, Selectman.
New York.....	Buffalo.....	October 18.....	Pave portions Urban, Beacon, Mystic Streets.....	F. G. Ward, Com'r Pub. Works.
New York.....	Port Chester.....	October 18.....	Paving brick on North Main Street.....	Board of Trustees.
Iowa.....	Des Moines.....	October 18.....	Lay 7,761 ft. asphalt on concrete base on West Fourth and Washington Streets.....	W. W. Wise, Clerk Bd. Pub. Wks.
New York.....	Albany.....	October 19, noon.....	Additional work on roads in Mohawk and Amsterdam.....	Henry A. Van Alstyne, State Eng'r.
District of Columbia.....	Washington.....	October 19, noon.....	Laying cement sidewalks.....	Board of Commissioners.
Indiana.....	Terre Haute.....	October 20.....	Improving roads in Lost Creek township.....	Jerome W. Denehie, County Auditor.
Indiana.....	Greencastle.....	October 20, 11 A.M.....	7,688.5 ft. macadamized road in Mill Creek.....	C. C. Hurst, County Auditor.
Iowa.....	Des Moines.....	October 20.....	Paving W. Fifth and W. Twenty-seventh Sts. with asphalt, 3,195 sq. yards, and laying combination curb and gutter on three streets.....	W. W. Wise, Board of Public Works.
Maryland.....	Bel Air.....	October 22, noon.....	Grade and macadamize 1.15 m. road.....	Harford County Commissioners.
Florida.....	Fort Barrancas.....	October 22, 11 A.M.....	Constructing concrete walk.....	Lt. L. S. Chappelle, Quartermaster.
Delaware.....	Wilmington.....	October 23, 10:30 A.M.....	Macadamize Foulk road, 1½ miles.....	Francis A. Price, Highway Com'r.
Maryland.....	Rockville.....	October 23, noon.....	Grade and macadamize ¼ mile road.....	Robert G. Hilton, Clk. Co. Com'rs.
Maryland.....	Salisbury.....	October 23, noon.....	Grade and macadamize 2-mile road.....	Wicomico County Com'rs.
Pennsylvania.....	Pittsburg.....	October 23.....	Constructing 15,384 ft. of road.....	Jos. W. Hunter, Commissioner.
New Jersey.....	Hoboken.....	October 24, 8 P.M.....	Resetting curbs, relaying sidewalks, and repaving roadways.....	Jas. H. Londrigan, City Clerk.
Ohio.....	Madisonville.....	October 24.....	Grade, macadamize, lay curb, etc.....	J. A. Conant, Village Clerk.
Oregon.....	Estacada.....	October 25, 7 P.M.....	Grading and macadamizing Broadway.....	City Engineer.
New York.....	Albany.....	October 31, noon.....	Improving 25 public highways, 80 423 miles, in ten counties.....	Henry A. Van Alstyne, State Eng'r.
Michigan.....	Byron.....	October 31.....	Constructing one-mile roadway.....	M. J. O'Meara, Town Clerk.
Indiana.....	Evansville.....	October 31.....	Paving streets and alleys with brick.....	W. F. Wunderlick, Clk. Bd. Pub. Wks.
New Jersey.....	Fort Hancock.....	November 1, noon.....	Constructing gravel and macadam roads.....	Lt. Wm. Paterson, Quartermaster.
<b>Water Supply</b>				
Indiana.....	Danville.....	October 18.....	Constructing pumping station.....	H. W. Dill, City Clerk.
New York.....	Buffalo.....	October 24, 3 P.M.....	Alterations to water supply system, Buffalo State Hospital.....	G. L. Heins, Arch., Capitol, Albany.
Illinois.....	Chicago.....	October 25.....	Construct 400 feet water pipe, tunnel under river.....	Wm. L. O'Connell, Com'r Pub. Wks.
District of Columbia.....	Washington.....	October 27, noon.....	One 42-in. water gate.....	Board of Commissioners.
Michigan.....	Iron River.....	October 27.....	Complete system of waterworks.....	Chas. A. Otto, Village Clerk.
Nebraska.....	Scribner.....	October 27.....	Constructing water system.....	Hal Christy, Village Clerk.
Ohio.....	Fredericksburg.....	October 29.....	Constructing waterworks system.....	C. G. Ranbaugh, City Clerk.
Illinois.....	Decatur.....	October 29, 8 P.M.....	Pumping engine, 6,000,000 gallons capacity.....	Albert Leach, City Clerk.
New Brunswick.....	Dalhousie.....	October 29, 7:30 P.M.....	Laying 17,000 ft. 7, 10 and 12-in. conduit pipe.....	A. J. Labec, Town Clerk.
Utah.....	Whiterocks.....	October 31, 2 P.M.....	Water system at Uinta and Ouray agency.....	Capt. G. G. Hall, Act. Ind. Agt.
Ohio.....	Lancaster.....	October 31.....	31,000 ft. of 8-in. pipe.....	Geo. Cunningham, Clerk.
Indian Territory.....	South McAlester.....	November 1.....	Extending mains.....	Geo. Wilcox, City Engineer.
Pennsylvania.....	Philadelphia.....	November 7.....	Constructing preliminary filters.....	Thomas L. Hicks, D. P. W.
New York.....	Yonkers.....	November 8.....	Installing 6,000,000 gallon high-duty pump at tube well pumping station.....	J. J. Devitt, Pres. Water Com'rs.
New Mexico.....	Port Wingate.....	November 15.....	Construct reservoirs and connections.....	G. L. Morrison, Quartermaster.
Louisiana.....	Jonesville.....	January 2.....	Sinking an artesian well.....	T. M. Mathews, Mayor.
<b>Sewerage</b>				
Ohio.....	New Philadelphia.....	October 18.....	15-in. extension, N. Eighth St., storm sewer.....	Geo. C. Marsh, City Clerk.
District of Columbia.....	Washington.....	October 18, noon.....	Constructing sewers.....	H. R. F. Macfarland, Com'r.
Iowa.....	Des Moines.....	October 20.....	425 ft., 12-in. vitrified clay pipe sewer.....	W. W. Wise, Board of Public Works.
New Jersey.....	Plainfield.....	October 22, 8 P.M.....	Constructing sanitary sewers and pumping station, 6,265 ft. 8-in. vitrified pipe, 7,675 ft. 8 to 14-in. cast-iron sewer, 2,500 ft. 8-in. cast-iron force main, manholes, electric motors, etc.....	Andrew J. Gavett, City Surveyor.
Minnesota.....	Albert Lea.....	October 25.....	Constructing sewer in 13-ft. excavation.....	William Berneck, City Engineer.
Illinois.....	Rock Island.....	October 31.....	Sewers and drains, District No. 2.....	Geo. W. McCaskrin, Pres. Bd.
New Jersey.....	Fort Lee.....	November 1.....	Sewer system, to cost \$100,000.....	Dan'l W. McAvoy, Mayor.
Indian Territory.....	South McAlester.....	November 1.....	Sewer system, to cost \$25,000.....	J. M. Gannaway, City Clerk.
Ohio.....	Barberton.....	November 5.....	Local sewer on Eighth Street.....	Geo. Davis, City Clerk.
Georgia.....	Dawson.....	November 6.....	Construct complete sanitary system, 8 miles, 8 to 18-in. sewer.....	J. B. McCrary, Atlanta, Engineer.
Michigan.....	Escanaba.....	November 6.....	Constructing pipe sewers.....	D. A. Brotherton, Engineer.
Ohio.....	Cleveland Heights.....	November 6.....	Construct six or more sewers.....	W. G. Phare, Village Clerk.
California.....	Los Angeles.....	November 19, 11 A.M.....	Construct Section 3 of outfall sewer.....	Board of Public Works.
New York.....	Syracuse.....	January 2.....	Sewer system in Elmwood Dist., cost \$50,000.....	H. H. Brewster, Engineer.
<b>Public Buildings</b>				
Ohio.....	Athens.....	October 18, noon.....	Women's dormitory, Ohio University.....	L. M. Jewett, Secretary.
New York.....	Fort Niagara.....	October 19, 11 A.M.....	Constructing and equipping two sets officers' quarters and two sets double barracks.....	Constructing Quartermaster.
Ohio.....	Youngstown.....	October 19, 11 A.M.....	Officers' quarters and barracks.....	Constructing Quartermaster.
New York.....	Ellis Island.....	October 20.....	Contagious disease hospital.....	J. K. Taylor, Washington, D. C.



## Public Buildings—Continued.

Pennsylvania.....	Dravosburg.....	October 20.....	Three-story school, to cost \$40,000.....	Charles E. Long, President.
District of Columbia.....	Washington.....	October 22, noon.....	Erecting guard house.....	Capt. J. S. Sewell, Soldiers' Home.
Minnesota.....	Chisholm.....	October 22.....	Erecting high school building.....	W. R. Schmidt, Clerk District 40.
New Jersey.....	Newark.....	October 22, 4:30 P.M.....	Erecting fire apparatus house.....	Herman Kreidler, Architect.
New Jersey.....	Newark.....	October 22, 4:30 P.M.....	Erecting police station house.....	Hurd & Sutton, Architects.
Connecticut.....	Norwalk.....	October 23.....	Erecting \$100,000 high school.....	Wilson Potter, New York, Arch.
Indiana.....	Moore Hill.....	October 23.....	Administration Bldg., Moore's Hill College.....	Crapsey & Lamm, Cincinnati, Archs.
Wisconsin.....	Wittenberg.....	October 23, 2 P.M.....	Brick laundry building, complete.....	S. A. M. Young, Supt. School.
District of Columbia.....	Washington.....	October 23, 2 P.M.....	Fire-proof, marble-faced mess hall and dormitory building.....	Capt. J. S. Sewell, Soldiers' Home.
California.....	Oakland.....	October 24, 11 A.M.....	Erect two-story engine house.....	Walter B. Fawcett, Sec'y Bd. Public Works.
Colorado.....	Denver.....	October 24, 11 A.M.....	Erecting Auditorium Building.....	Robert Willson, Architect.
New York.....	Utica.....	October 24, 3 P.M.....	Acute hospital building, State hospital.....	G. L. Heins, Capitol, Albany.
South Dakota.....	Rapid City.....	October 24, 2 P.M.....	Brick office building, complete.....	Jesse F. House, Supt. School.
Wisconsin.....	Elroy.....	October 24, 6 P.M.....	Erecting public library building.....	Wm. Flood, Sec'y Library Board.
Ohio.....	Columbus.....	October 29.....	Amphitheatre on State Fair Grounds.....	T. L. Calvert, Sec'y Bd. Agr.
North Dakota.....	University.....	October 30.....	Library building at State University.....	J. W. Wilkerson, Sec'y Bd. Trustees.
Quebec.....	Waterloo.....	October 31.....	Constructing academy.....	Geo. Moynen, Chm. School Com'rs.
Delaware.....	Port Du Pont.....	November 1, 11 A.M.....	Frame quarters for bachelor officers.....	Capt. Louis F. Garrard, Quarterm's'r.
Kentucky.....	Louisville.....	November 4.....	One-story, \$25,000 brick and stone library.....	R. M. Brown, Sec'y Libr. Trustees.
Louisiana.....	New Orleans.....	November 5, 1 P.M.....	Central library building.....	F. White, City Comptroller.
North Dakota.....	Port Totten.....	November 7, 2 P.M.....	Frame office building and barn.....	Charles L. Davis, Superintendent.
Indiana.....	Bloomington.....	November 8.....	Erecting County Court House.....	Samuel M. Kerr, County Auditor.
Maine.....	Portland.....	November 8, 3 P.M.....	Quarantine buildings and wharf, House Island.....	J. K. Taylor, Washington, D. C.
Louisiana.....	Shreveport.....	December 20.....	Erecting \$75,000, City Hall.....	C. G. Rives, City Comptroller.

## Bridges

Georgia.....	Augusta.....	October 19, noon.....	Construct steel bridge 77 ft. 9 in. long, 16-ft. roadway, support 15 ton roadroller at Lake Olmstead.....	Nisbet Wingfield, Com'r Pub. Wks.
Pennsylvania.....	Reading.....	October 19, 10 A.M.....	Steel 60-ft. span over Berkley Creek.....	H. F. Livingwood, Co. Comptroller.
Ohio.....	Eaton.....	October 20.....	Bridge superstructure in Dixon township.....	C. W. Eidson, County Auditor.
Pennsylvania.....	East Berkley.....	October 20.....	Bridge with 60-ft. plate girder span, concrete floor, alternate plan reinforced 60-ft. arch.....	N. M. Davis, Reading, Co. Engineer.
Ohio.....	St. Clairsville.....	October 22, 1 P.M.....	Erecting several bridges.....	A. W. Beatty, County Auditor.
Ohio.....	Martins Ferry.....	October 22.....	Seven steel bridges, 30 to 41 ft. long.....	Belmont County Com'rs.
Ohio.....	St. Clairsville.....	October 22, 1 P.M.....	Nine steel bridges with concrete floors.....	A. W. Beatty, County Auditor.
Indiana.....	Indianapolis.....	October 25.....	Bridge on Mt. Nebo road.....	T. E. Spofford, Commissioner.
Ohio.....	Wauseon.....	October 26.....	Constructing bridge in Franklin superstructure, 100 ft., also 40 ft. bridge.....	J. E. Merrill, Co. Auditor.
Ohio.....	Toledo.....	October 26, 10 A.M.....	Constructing six bridges.....	J. W. Kerr, County Commissioner.
Illinois.....	Peoria.....	November 6.....	Scherzer rolling lift bridge.....	E. A. Furry, Com'r Public Works.
Georgia.....	Powers Ferry.....	November 8, 11 A.M.....	Three-span bridge, 465 feet long.....	Clerk Road Commissioners, Atlanta.
Georgia.....	Johnsons Ferry.....	November 8, 2 P.M.....	Three steel span bridge, 365 feet long.....	Clerk Road Com'rs, Atlanta.
Manitoba.....	Winnipeg.....	November 20, 2:30 P.M.....	Superstructure steel highway bridge.....	H. N. Ruttan, City Engineer.

## Miscellaneous

District of Columbia.....	Washington.....	October 18, 2 P.M.....	Excavations, concrete foundations, pier work, south pavilion, National Museum bldg.....	Bernard R. Green, Superintendent.
Ohio.....	Mansfield.....	October 18.....	Constructing 42 steel cells in reformatory.....	Fred S. Marquis, Secretary.
Ontario.....	Peterboro.....	October 18, 4 P.M.....	Installing fire alarm system and maintaining for five or ten years.....	S. R. Armstrong, City Clerk.
Louisiana.....	Napoleonville.....	October 20, 2 P.M.....	Constructing electric-light plant.....	Philip H. Gilbert, Mayor.
Louisiana.....	Fort St. Philip.....	October 20, noon.....	Moving guard house, demolishing old fort and distributing material.....	Capt. B. T. Clayton, New Orleans, Quartermaster.
New Jersey.....	Fort Mott.....	October 20, 11 A.M.....	Garbage crematory and building.....	Capt. Louis F. Garrard, Q. M.
Texas.....	Sherman.....	October 22.....	Installing conduit and electric wiring system for U. S. Post Office and Court House.....	J. K. Taylor, Washington, D. C.
Virginia.....	Norfolk.....	October 22, noon.....	Construct pier, Jamestown Exposition.....	Lt. E. J. Dent, Washington, D. C.
New York.....	Ward's Island.....	October 24, 3 P.M.....	Rewiring and fixtures in hospital.....	T. E. McGarr, Sec'y, Capitol, Albany.
New Jersey.....	Orange.....	October 25.....	Construct municipal electric-light plant.....	Isaac Shoenthal, Mayor.
Oklahoma.....	Chillico.....	October 25.....	200 h. p. water-tube boiler, 120 h. p. engine, 80 kw. dynamo, with switchboard, volt meters, circuit breakers, etc., 311 bbls. cement, etc.....	S. M. McGowan, Supt. Indian School.
Ohio.....	Lima.....	October 25.....	Construct flat arch or box culvert.....	C. E. Craig, City Engineer.
Nebraska.....	Scribner.....	October 27.....	Construct light and heating plant.....	Hal. Christy, Village Clerk.
Ontario.....	Owen Sound.....	October 27.....	Build pile and concrete revetment wall.....	J. G. Sing, Ontario, Engineer.
New Jersey.....	Orange.....	October 29, 8 P.M.....	Engines, generators and arc lights for municipal lighting plant.....	Street Lighting Committee.
California.....	Mare Island.....	October 30, 10 A.M.....	Naval supplies, incl electric crane.....	Navy Pay Office.
New York.....	Canastota.....	November 1.....	Lighting streets and public squares for two or five years, beginning February 6, 1907.....	E. B. Roberts, Village Clerk.
Ohio.....	Cincinnati.....	November 2, noon.....	Installing electric lighting, wiring, telephone system, etc., at pumping stations.....	Elmer G. Prior, Clk., W. W. Com'rs.
California.....	Alcatraz Island.....	November 3, 11 A.M.....	Erect wharf with iron standard piles.....	Jno. L. Clem, A. Q. M. G., U. S. A., Presidio, San Francisco.
Ontario.....	Toronto.....	November 6, noon.....	Lansdowne Avenue subway substructure.....	E. Coatsworth, Chm. Bd. Control.

## STREET IMPROVEMENTS

**Birmingham, Ala.**—The Moore-Evans Contracting Company and R. Blackburn have been awarded contract for grading, macadamizing, curbing and gutter paving, under ordinance No. 351, for \$15,963.60, and under ordinance No. 354, for \$5,322.50; C. M. Burkhalter, grading, under ordinance No. 354, for \$2,712.50, also for other work aggregating \$5,133.

**Oakland, Cal.**—Council has appropriated \$10,000 for the completion of Harrison boulevard.

**Colorado Springs, Col.**—Council is considering issue of \$23,000 bonds for street improvements.

**Washington, D. C.**—L. M. Simpson has been awarded contract for grading Rhode Island avenue between Queen's Chapel road and Brentwood, at \$4,500; about 10,000 cubic yards of earth will have to be moved.

**Jacksonville, Fla.**—John N. C. Stockton has been awarded contract for laying 182,606 square yards (nearly 10½ miles) of brick paving, at an average of about \$1.60 per square yard, total, \$290,000; work includes 46 streets from 18 to 40 feet wide, requiring nearly 7,500,000 paving brick to be furnished

by the Southern Clay Manufacturing Co., Chattanooga, Tenn., 114,504 feet of straight curbing, 420 circular corner curbstones with a radius of six feet each; D. M. Baker was awarded contract to lay 47,484 square yards of macadam paving on six streets, at bids ranging from 66 2-3 to 90 cents per square yard.

**Augusta, Ga.**—About two miles of macadam roads will be constructed at once.—W. B. Getchell, City Engineer.

**Joliet, Ill.**—Bids are invited for constructing cement walks.—Board of Local Improvements.

**Mt. Carmel, Ill.**—Several streets, aggregating 10,850 feet, will be paved with brick on concrete base; cost, \$80,000.—J. S. Spiker, City Engineer.

**Goshen, Ind.**—Plans are being prepared for paving Pearl street with brick.

**Indianapolis, Ind.**—Council will shortly invite bids for constructing brick roadways and gutters on a dozen streets, also for wooden block bitulthic and asphalt roadways in a large number of streets and alleys.—Mayor Bookwalter.

**Muncie, Ind.**—Council is considering the improving of certain streets by paving with brick.

**Mankato, Minn.**—The paving of certain streets with brick on a concrete foundation is being considered.

**Akron, O.**—E. McShafery & Son have been awarded contract for paving Hazel street, at \$11,000.

**Dayton, O.**—Bids will be opened, November 1, for \$11,000 West Third street paving bonds, \$9,000 Richards street paving bonds, and \$19,000 general paving bonds.—Edward Phillips, City Auditor.

**Elyria, O.**—The macadamizing of Clark street has been authorized; bids will shortly be invited.—Frank R. Fauver, City Clerk.

**Greenville, O.**—Council is considering laying of sidewalks, paving, curbing, and constructing sewers in several streets.—W. A. Browne, City Clerk.

**Niles, O.**—Bonds, \$14,000, will be issued for street improvements.

**Norwalk, O.**—Council has decided definitely to pave Main street.

**Norwich, O.**—Property owners on West Main street have petitioned Council for pavements.

**Port Clinton, O.**—Bonds, \$8,200, will be issued for improving Adams street.

**Springfield, O.**—Bids will be received, October 30, for \$10,000 street repair bonds.—F. A. Crothers, Clerk of Council.

**Toledo, O.**—Bids will be opened, October 17, for \$75,000 4 per cent. general street improvement bonds.—R. G. Bacon, City Auditor.

**Reading, Pa.**—Council is considering an ordinance for paving certain streets.

**Yankton, S. D.**—Council is arranging to pave Third street with brick.

**Fort Worth, Tex.**—The McQuatters Plumbing and Machine Company, of Hillsboro, submitted bid to lay bituminous macadam on Hemphill street at \$1.85 per square yard and on Carnegie place at \$1.87½, with no guarantee; the T. O. Brown Company, of Dallas, bituminous macadam on Hemphill street, at \$1.90, and the Texas Bitulithic Company of Dallas, \$2.35 per square yard, with a ten-year guarantee; the cost of paving Hemphill avenue will exceed \$10,000.—John B. Hawley, City Engineer.

**Montpelier, Vt.**—The citizens have voted in favor of expenditure of \$15,000 for street improvements and \$10,000 for sewer extensions and repairs.

**McMechen, W. Va.**—Higgins & Hirst, of Moundsville, have been awarded contract for paving McMechen avenue with brick.

**Morgantown, W. Va.**—Plans are being prepared for paving Willey, Chestnut, Moore, Walnut, Fayette, Stewart, Sixth and Fifth streets.—City Engineer Morris.

### SEWERS

**Stockton, Cal.**—Bids will be received, October 22, for \$40,000 4 per cent. 40 year sewer bonds.

**Edwardsville, Ill.**—Bonds, \$20,000, have been voted to construct sewers and purchase additional fire apparatus.

**Elgin, Ill.**—The Aurora, DeKalb and Rockford electric line has petitioned Council for right to use seven streets; the company offered to build a \$60,000 bridge if given a franchise.

**Lincoln, Ind.**—Work on the \$100,000 sewer system will be started shortly; Council has purchased a site for a septic tank.

**Richmond, Ky.**—Plans are being prepared for a \$30,000 sewer system by Ward & Berdick, Chicago, Ill.

**Princeton, N. J.**—Council is considering the establishment of a septic sewer tank system.

**Chester, O.**—The Village Council is preparing to build a sanitary sewer.

**Covenant, O.**—The State Board of Health has granted a request of the local Board of Health for the construction of a sanitary sewer north of the Main street bridge.

**Elyria, O.**—Legislation is being considered for constructing sewers in District No. 2.—Frank R. Fauver, City Clerk.

**Girard, O.**—Bonds, \$30,000, will be issued for constructing sewers.

**Springfield, O.**—Bids for constructing the proposed \$200,000 sanitary sewerage system will probably be invited in the spring.—W. H. Sieverling, City Engineer.

**Staubenville, O.**—Council is considering construction of sewer in Eighth street.—W. W. Trainor, City Clerk.

**Lebanon, Pa.**—A new \$127,000 sewer system is to be constructed.—Thomas R. Crowell, City Engineer; James H. Fuentes, New York City, Consulting Engineer.

**Knoxville, Tenn.**—An appropriation is to be made for constructing sewers.—J. M. Aiken, Chairman, Council Appropriation Committee.

**Seattle, Wash.**—The issue of \$1,750,000 bonds for constructing a sewer system is being considered.

**McMechen, W. Va.**—Bonds, \$20,000, have been voted for a sewerage system.

**Winchester, W. Va.**—The citizens will vote, November 6, on issue of \$40,000 4 per cent. sewer bonds.

**Lake Mills, Wis.**—The citizens will vote an issue of \$15,000 bonds for improving streets and constructing sewers, at a special election.

### WATER SUPPLY

**Dadeville, Ala.**—A \$15,000 waterworks system is to be constructed.—Hall Brothers, Engineers.

**Wylam, Ala.**—The Birmingham Waterworks Company has decided to extend its water mains to Wylam.

**Vienna, Ga.**—The proposed water system will cost \$20,000.—B. F. Forbes, Mayor; Arthur Pew, Atlanta, Engineer.

**Bedford, Ind.**—Bonds will probably be issued to purchase new pumps for the Waterworks Department.

**Elwood, Ind.**—The water supply is unsatisfactory and plans are being discussed for improving same.

**Dubuque, Ia.**—Council proposes to purchase an additional pump for \$5,000 to improve the water supply.

**Northport, Mich.**—The citizens are arranging to secure a water supply.

**Bradley Beach, N. J.**—Council is arranging to issue \$65,000 bonds for waterworks and electric lights.

**Dunkirk, N. Y.**—Bids opened September 24, for new machinery for waterworks, have been rejected; new bids will be received in thirty days.—W. C. Baumgartner, Secretary, Board of Water Commissioners.

**Alliance, O.**—Bids will be opened, October 18, for \$5,000 bonds for drilling water wells.—Charles O. Silver, City Auditor.

**Hamilton, O.**—An ordinance is being considered to issue \$115,000 waterworks and \$55,000 deficiency bonds.

**Madisonville, O.**—The Village Council is preparing to expend \$22,000 extending water mains and improving the electric-lighting and waterworks plants.

**Malta, O.**—All bids received for constructing a waterworks system have been rejected; new bids will be invited.—F. C. Miller, City Clerk.

**Massillon, O.**—Bonds, \$285,000, may be issued to acquire the waterworks system now owned and operated by the Massillon Water Supply Company.

**Maumee, O.**—Water will be secured from Toledo, or a small pumping station erected, for which Council is considering issue of \$40,000 bonds.—Address R. D. Myers.

**Newark, O.**—The new waterworks, it is estimated, will cost \$581,600, necessitating an additional bond issue of \$281,600, which will probably be authorized; the estimate is for reservoir system, new pumps and fifty miles of 16, 12, 10, 8 and 6-inch pipe.—Riggs & Sherman, Toledo, Engineers.

**Reading, Pa.**—A \$150,000 filter plant is to be constructed at the Bernhart reservoir; an additional pipe line is also recommended.

**Camden, Tenn.**—Council is considering the sinking of an artesian well for fire protection.

**Memphis, Tenn.**—Bonds, \$200,000, will probably be issued for improving the water plant.

**Marlin, Tex.**—Council proposes to expend \$12,000 improving the water system.

**Norfolk, Va.**—An additional pump, to cost \$7,000, will probably be installed at the filtration plant.—George W. Wright, Chief Engineer, Water Department.

### LIGHTING AND ELECTRICITY

**Ft. Smith, Ark.**—A franchise to construct and operate an electric-light plant has been petitioned for by Mrs. Fannie Cohn.

**Gainesville, Ga.**—The North Georgia Electric Company has filed a mortgage to secure an issue of \$7,500,000; the money derived from the sale of these bonds is to be applied in equipping the general electrical business of the company, which will undertake the furnishing of electrical power of every kind and description to private and municipal corporations and to the general public; the company is now extending its line from Gainesville to Atlanta, for the transmission of electrical power.—A. J. Warren, President of the electrical company, signed the mortgage.

**Viola, Ill.**—W. S. Ryan has been granted a franchise to operate an electric-light plant.

**Lincoln, Ind.**—The Council is arranging to make extensive improvements to the electric-light plant.

**Richmond, Ind.**—Council is considering issue of \$28,000 bonds to improve the light plant.

**Maryville, Mo.**—Plans are being prepared for a municipal electric-light and waterworks plant.—Burns & McDonnell, Kansas City, Engineers.

**Beaver Crossing, Neb.**—J. P. Martin is preparing to build an electric-light plant.

**Giltner, Neb.**—Arrangements are being made to construct and operate an electric-light plant.

**Columbus, O.**—Council is considering issue of \$40,000 municipal lighting bonds.

**Galion, O.**—Bonds, \$8,500, will probably be issued for improving and remodeling the electric-light plant.

**Oxford, O.**—Bonds, \$3,000, will be issued for repairing the electric-light plant.

**Richmond, Va.**—The city officials are considering installation of an electric-light plant; \$3,000,000 will be required for the purpose.

**Madison, Wis.**—The Northern Electric Company will double the capacity of its plant by an outlay of \$100,000; a machine shop, 115 x 250, will be built.

### FIRE EQUIPMENT AND SUPPLIES

**Bridgeport, Conn.**—A site has been selected for No. 10 Engine Company in the Fifth District and will be purchased shortly; the house will be built next spring and equipped with a chemical engine and later with a steam fire engine.

**LeClaire, Ia.**—Council has decided to erect a new engine house.

**Lawrence, Mass.**—A \$15,000 fire engine house is to be erected on Bailey street.

**Sheboygan, Mich.**—Council proposes to remodel the fire alarm system.

**South Lyons, Mich.**—A Fire Department has been organized with a membership of 44; apparatus will be procured.

**Papillion, Neb.**—Arrangements are being

made to organize a fire company; apparatus will be purchased and wells bored to secure water.

**Montclair, N. J.**—J. B. Kent has contract to erect fire house on Walnut street, for \$14,432.

**Milton, Wis.**—Council proposes to build a fire station.—G. R. Boos, Fire Chief.

### PUBLIC BUILDINGS

**New Decatur, Ala.**—An election will be held in November to vote on issue of \$25,000 5 per cent. school bonds.—Samuel Blackwell, Mayor.

**Fort Smith, Ark.**—The Board of Public Affairs invites bids for erecting a \$175,000 City Hall; plans are in the office of the Engineer of Public Works.

**Nashville, Ga.**—Bids will be received, November 15, for \$25,000 water and \$5,000 school bonds.

**Muskogee, I. T.**—The issue of \$6,000 school bonds has been approved by the Department of the Interior, Washington, D. C.

**Des Moines, Ia.**—Polk county citizens will vote on issue of \$150,000 bonds for a new jail and heating plant.

**Marion, Ia.**—The citizens of Linn county will vote on issue of \$125,000 bonds to erect a Court House.

**Hutchinson, Kan.**—Bonds, \$62,500, have been voted for school purposes.

**Salina, Kan.**—The County Commissioners are considering issue of \$80,000 bonds to erect a Court House.

**Louisville, Ky.**—Bids opened, September 26, for erecting \$25,000 Highland Branch Library, have been rejected.—John B. Hutchins and Henry F. Hawes, Columbia Building, Architects.

**Richmond, Ky.**—The issue of \$30,000 school bonds will be submitted to a vote of the people.

**Lake Providence, La.**—Bids will be received, November 13, for \$30,000 5 per cent. school bonds.—C. W. Wyly, Clerk.

**Amory, Miss.**—Bonds, \$14,000, have been authorized for school purposes.

**Kansas City, Mo.**—The citizens will vote on issue of \$250,000 bonds for a new County Home.—James L. Phalts, County Clerk.

**Omaha, Neb.**—Plans for a City Hall have been completed by John Latenser, Bee Building.

**Salisbury, N. C.**—Plans for the new Rowan County Jail will be completed about November 1, when bids will be invited.—Frank P. Milburn & Co., Washington, D. C., Architects.

**Cincinnati, O.**—Bids will be received, November 5, for \$300,000 bonds for a branch hospital.—W. C. Culkins, City Auditor.

**Elyria, O.**—The citizens will vote on issue of \$60,000 bonds for school purposes.

**Franklin, Pa.**—Plans have been prepared for an \$80,000 jail.—William Young Brady, Architect.

**Greensburg, Pa.**—Bids for the purchase of \$1,000,000 Court House bonds will be readvertised by the County Commissioners.

**York, Pa.**—A new \$150,000 jail is to be erected.—B. F. Willis, Architect.

**Montpelier, Vt.**—Citizens have voted in favor of erecting a \$125,000 City Hall and Auditorium, and a \$6,000 stable.

**Walla Walla, Wash.**—A brick and stone City Hall, to cost \$40,000, is to be built; bids are asked.—Address City Clerk.

### BRIDGES

**Peoria, Ill.**—Only one bid was received for constructing a Scherzer left span to a bridge across the Illinois river. The Strobel Steel Company, of Chicago, bid as follows: Lift proper, \$36,400; counterweight machinery, \$9,100; operating machinery, \$9,155; electrical machinery, \$8,000; operator's house, \$1,200; total, \$63,855. New bids will be received November 6.—E. A. Furry, Commissioner of Public Works.

**Cedar Rapids, Ia.**—The Rock Island is arranging to reconstruct the overhead bridge west of Grinnell, which was destroyed by fire a few months ago.

**Beatrice, Neb.**—The County Board has rejected all bids for thirty bridges which were made in blanket form, instead of separately, as invited.

**Cincinnati, O.**—The Council Committee on Appropriations has under consideration an appropriation to build a viaduct at Gilbert avenue.

**Cincinnati, O.**—Council will authorize issue of \$36,000 bonds for constructing the Eighth street bridge.

**Elyria, O.**—Bonds, \$54,000, will probably be issued for bridge purposes.

**Toledo, O.**—Riggs & Sherman have been directed to survey and make soundings for a bridge across the Maumee river to be built by the proposed line connecting Toledo and Defiance.

**Mercer, Pa.**—A new steel bridge, thirty feet long, with a sixteen-foot roadway, is to be built over Greenville Run, north of the borough.



## STREET RAILWAYS

**Atlanta, Ga.**—The Atlantic, Buford and Gainesville Electric Railway Company has made a survey for a line from Atlanta to Norcross and Gainesville, with a branch from Norcross to Cumming, 80 miles.—E. Philbrick, Chief Engineer.

**Chicago, Ill.**—The North Shore and Western Railway, capital \$50,000, will build a line between Evanston and Elgin.—Address William A. Love.

**Peoria, Ill.**—Work on the Peoria, Streator and Ottawa Railway will be started early in the year, and guarantees have been put up with the city authorities that the road will be in operation in two years.

**Lafayette, Ind.**—The Lafayette and Hoopston Interurban Railway Company has been granted a franchise to construct and operate an electric railway through Tippecanoe County.

**Wabash, Ind.**—The construction of a line from Wabash to Warsaw by the Indiana Central Traction Company will be started shortly.—V. J. Drayer, President.

**Chickasha, I. T.**—The stockholders of the Chickasha Street Railway Company propose to issue bonds for improvements.

**Eveleth, Minn.**—The Mesaba Traction Company has petitioned for a franchise to build an electric railway through certain streets.

**Hattiesburg, Miss.**—The Hattiesburg Traction Company will at once begin the construction of seven miles of street railway.

**St. Louis, Mo.**—The St. Louis and Southwestern Railway Company will issue \$4,000,000 bonds to make extensive improvements.

**St. Louis, Mo.**—The Jefferson Traction Company, recently incorporated, will build about twenty miles of road, connecting six cities and towns near St. Louis.—E. R. Kinsey, Engineer-in-Charge.

**Sedalia, Mo.**—The Missouri and Interurban Railroad Company has been incorporated with a capital stock of \$20,000 to run a line from Jefferson City to Sedalia, a distance of 79.4 miles.

**Syracuse, N. Y.**—C. E. and J. S. Kaulback, of Phoenix, have been awarded contract to build a fifteen-mile extension for the Syracuse, Lake Shore and Northern Railroad, from Baldwinsville to Fulton.—Thomas H. Mather, Chief Engineer.

**Janesville, O.**—The Southwestern Ohio Interurban Railway proposes to build a line connecting Janesville and Coshocton.

**Springfield, O.**—Council is considering granting a franchise for use of certain streets to the Indiana, Columbus and Eastern Traction Company.

**Springfield, O.**—The Springfield Street Railway Company proposes to extend its lines two miles to the manufacturing district.

**Toledo, O.**—Plans for a traction line to connect Toledo and Defiance are being prepared by Riggs & Sherman, Consulting Engineers.

**Athens, Okla.**—The Wichita Falls and Northwestern Railway Company has been chartered with a capital of \$1,000,000, to build a line 375 miles long, starting southwest of Lawton in Comanche county.

**Lawton, Okla.**—The Lawton Rapid Transit Railway Company has been chartered, capital \$1,000,000, to build twenty miles of electric railway in Lawton.—Neal S. Doran, Kansas City, Mo.; W. M. Smith, J. Elmer Thomas, and others, incorporators.

**Nashville, Tenn.**—The Cincinnati and Birmingham Air Line to extend 150 miles from Somerset, Ky., via Monticello, Ky., to Birmingham, Ala., is projected by a new company.—J. H. Connor, President and General Manager; J. L. Short, Secretary and Treasurer.

**Austin, Tex.**—Bonds, \$945,000, will be issued by the directors of the Kansas City, Mexico and Oriental Railway Company for improvements.

**Beaumont, Tex.**—Arrangements are being made to build an electric railway between Beaumont and Port Arthur via Spindle Top.—R. A. Greer and A. G. Williams, promoters.

**Norfolk, Va.**—A modern cold storage and ice-making plant, to cost \$140,000, is to be built; there will be a complete electric plant to run the machinery.—Address L. Feuerstein.

**Spokane, Wash.**—The Spokane Interurban Railway Company has been incorporated with a capital stock of \$150,000, to build and operate an electric road to Cheney and other towns adjacent to Spokane.—H. L. Blecker, Charles P. Lund, and others, incorporators.

## MISCELLANEOUS

**Oakland, Cal.**—The Board of Works has been authorized to purchase land near the northeast arm of Lake Merritt for park purposes; Council has also appropriated \$10,000 for the improvement of Bushrod Park and \$3,000 to purchase another small parcel of land.

**San Francisco, Cal.**—Bids will be received, at the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., until Nov. 13, for furnishing three electric traveling cranes at the Mare Island Navy Yard, San Francisco.

**Wilmington, Del.**—The River and Harbor Improvement Company has been awarded contract for dredging the upper Christina river, at 27 cents per cubic yard.—Maj. C. A. F. Flagler.

**Leesburg, Fla.**—Bids will be received, October 20, for \$8,000 improvement bonds.—L. M. Johnson, City Clerk.

**Indianapolis, Ind.**—The lowest bid for asphalt pavement in Twenty-fifth street, between Central avenue and College avenue, was submitted to the Board of Public Works by the Western Construction Company, \$2.58 a lineal foot; the Union Asphalt Construction Company bid \$2.59 a foot, and the Barber Asphalt Paving Company, \$2.86 a foot.

**Des Moines, Ia.**—It is reported that a garbage plant will be erected. C. O. Dolittle, of Webster City, Ia., is interested.

**Sac City, Ia.**—Bids will be received, October 30, by the Joint Board of Supervisors of Sac and Calhoun Counties, for constructing a joint county drain in Cedar Township; also in Garfield Township, as follows:—32,593 feet of tile and 18,800 cubic yards of flood water drain.

**Edwardsville, Ill.**—Council is considering ordinance authorizing issue of bonds for constructing sewers and bridges and procuring fire apparatus.

**Topeka, Kan.**—The Soldier and Indian Creek Drainage District will vote on issue of \$225,000 drainage bonds.

**Crowley, La.**—The question of issuing \$100,000 bonds for extending the water-works, electric-light and building high school will be voted on November 4.

**Ann Arbor, Mich.**—Council purposes to purchase a police patrol wagon.

**Reed City, Mich.**—A special election will be held to pass an issue of \$15,000 public improvement bonds.

**Omaha, Neb.**—The citizens will vote, November 6, on issue of \$150,000 bonds.

**Raleigh, N. C.**—The citizens will vote in November on issue of \$30,000 county improvement bonds.

**Canton, O.**—Council is considering issue of \$10,000 park and \$29,000 refunding bonds.

**Conneaut, O.**—Bonds, \$22,000, will be issued for park purposes.

**Lancaster, O.**—Bonds, \$10,000, will be issued for park purposes.

**Greenwood, S. C.**—The County Commissioners will offer for sale, November 3, bonds for \$37,000, \$25,000 and \$18,000.—J. M. Major, Supervisor.

**Texas City, Tex.**—Plans have been prepared for a \$300,000 dock by the Duluth Engineering Company, Duluth, Minn.

**Seattle, Wash.**—The Pacific Portland Cement Company, through the Secretary of the Interior Department, has been awarded a contract for supplying 27,000 barrels, more or less, of Portland cement for the Tieton and Sunnyside irrigation projects, in Washington. This marks the beginning of construction work on the Yakima project, of which Sunnyside and Tieton projects are independent units.

**Barcelona, Spain.**—The City Council has opened a competitive congress for machinery and processes for the extraction and utilization of garbage, rubbish and street sweepings. The machinery must be of the latest pattern. Bids are asked, December 1.

## INCORPORATIONS

**Marion and Western Railway, Light and Power Company, Columbus, O.**; capital, \$200,000. Incorporators: John G. Webb, George H. Holzboog and others.

**Mixon Light and Power Company, Mixon, Texas**; capital, \$100,000. E. M. Turner, Hillsboro, Joseph Nussbaum and others, incorporators.

**Mount Vernon Utilities Corporation**; ice and refrigeration. Capital, \$50,000. Incorporators: Frederick W. Clark, William D. Grant, Edward F. Brush, Mount Vernon, N. Y., and others.

**New Brunswick Tile Co., North Brunswick, N. J.** To manufacture drainage, tiling for flues, vents, drain pipes, pressed brick, etc. Capital, \$100,000. Incorporators: Charles E. Harris, 665 East Twelfth street, Brooklyn; Charles N. King and George H. Russell, 243 Washington street, Jersey City, N. J.

**New York, Brockton and Boston Canal and Transportation Company, Boston, Mass.**; capital, \$15,000,000. Incorporators: Col. John J. Whipple, president; Thomas A. Norris, clerk; Herbert E. Guy, treasurer; ex-Gov. William L. Douglas, Col. John J. Whipple, Hon. Robert T. Davis, of Fall River; Robert Cook, of Avon; Wallace C. Flagg, George B. French, of Holbrook; Herbert E. Guy, Hon. Portus B. Hancock, Bradford E. Jones, William H. Lewis, of Taunton; Hon. Emory M. Low, Edward B. Mellen, Kenneth McLeod, Thomas A. Norris and Moses A. Packard, directors.

**Otselic Valley Railroad Company, Otselic, N. Y.**, street surface railroad; capital, \$120,000. Incorporators: J. H. Scott, Hobart, N. Y.; W. F. Wenright, New York; B. F. Gladding, South Otselic, N. Y., and others.

**Rumford Falls and Bethel Street Railway Company, Augusta, Me.**; to construct, maintain and operate a street railway in Mexico, Rumford, Hanover, Newry and Bethel, by electricity or compressed air. Capital, \$120,000. Incorporators: Elliott W. Howe, Everett K. Dav. Orville J. Gonyea, William H. Ray and Dennis J. McCoy, all of Rumford.

**Sanitary Water-still Company, New York City.** To manufacture water filtering apparatus, etc. Capital, \$25,000. Incorporators: John A. Power, 17 West Thirty-second street, E. Ormonde Power, 499 Fifth avenue, both of New York; Emil H. Frank, Jr., 21 Montgomery Place, Brooklyn.

**Steel Plate Piling Co., 525 Main street, East Orange, N. J.**; machine works, foundry and rolling mill. Capital, \$50,000. Incorporators: Charles L. Beck, Charles O. Geyer, Frank C. Ferguson, all as above.

**St. Louis and Montezana Railway Company, St. Louis, Mo.**; capital, \$4,000,000. Incorporators: Charles A. Oulke, A. Furo and others.

**Water, Light and Power Company, Chilli-cothe, Ill.**; capital, \$50,000. Incorporators: Frank H. Earl, W. H. Foster and Charles A. Kingsbury.

**CIVIL ENGINEERS**, thoroughly experienced in street railway work, installing water and sewer systems, etc., should learn of desirable positions open at our twelve offices; salaries \$1,000-\$3,500. Write us to-day. Hapgoods, 305 Broadway, N. Y.

**FOUNDATION OF ROADS** is the subject now under most earnest investigation by Engineers throughout the World; poor foundations and good surfaces are found everywhere—result, short lived roads. THERE IS NOT ONE FOUNDATION ON THE MARKET TO-DAY THAT PROPERLY SUPPORTS THE SURFACE. The steel rail and the wooden cross tie is always the same, but the highway is a different thing; different surfaces and different foundations are required for different services. We have these different foundations; they DO properly support the surface, and, IN OTHER WAYS, they give a life to the surface that was never before even contemplated. **The Nash Road, Borough of Brooklyn, N. Y. City, U.S.A.**

For Machines to Drill, Blast and Test Holes and Water Wells, write "LOOMIS CO., TIFFIN, O."

High Grades  
of

**PURE ASPHALT**

The "Maltha"  
Brand

California Asphaltum Sales Agency

San Francisco Chicago New York London  
JOHN BAKER, Jr., Manager

## WHO'S WHO IN MUNICIPAL WORK

**JACKSON, Granbery.**—Adjunct Professor Engineering, Vanderbilt University, Nashville, Tenn., since 1903; Consulting and Designing Engineer for municipal improvements. Born, Mt. Pleasant, Tenn., in 1873; educated at Southwestern Presbyterian University, Clarksburg, Tenn., and at Vanderbilt University, graduating in 1894. Instructor in Engineering, Vanderbilt University, 1894 to 1897. With Sanders & Porter, Engineers and Contractors, Louisville, Ky., 1897 to 1898. From 1898 to date, Engineer for various municipal improvements, including the following: Waterworks and electric-light plant at Tullahoma, Tenn.; water, light and sewer systems at Dyersburg, Tenn.; electric-light plants at Lebanon and Murfreesboro, Tenn.; waterworks at Mt. Pleasant, Tenn.; water and light plants at Springfield, Tenn.; waterworks at Sardis, Miss.; electric lights at Huntsville, Ala.; waterworks at Bowling Green, Marion and Princeton, Ky.; water and light plants at Cookeville, Tenn., and Bolivar, Tenn.; also sewer systems at Cape Girardeau, Mo., and Covington, Tenn.; concrete dam, etc., at Harms, Tenn. Consulting Engineer for the Continental Gold Mining Co., Buena Vista, Col.; Engineer for the Jackson Phosphate Co., Mt. Pleasant, Tenn. Associate Member American Society of Civil Engineers, Member Engineering Association of the South, and of the American Public Works Association. Residence, Nashville, Tenn.

**SHERMAN, W. J.**—Civil Engineer; since 1895 a member of the firm of The Riggs and Sherman Company, Consulting Engineers, Toledo, O. A graduate of the Department of Engineering, Cornell University (Class of 1877). Has since been continuously in practice of his profession. Had charge of railroad construction in several Western states and at various times was Chief Engineer of the Clover Leaf, The Gulf, the Colorado and Santa Fé and the Wheeling and Erie railroads. Is now President of the Toledo Society of Engineers, past President of the Dallas Society of Engineers, a member of the Michigan Society of Engineers, and formerly a member of the Detroit Engineering Society and the St. Louis Engineers' Club. Residence, Toledo, Ohio.

## BOOK REVIEWS

**Physiological Economy in Nutrition.**—By Russell H. Chittenden, Ph.D., LL.D., Sc.D.; New York. Frederic A. Stokes Company, 1905. Price, \$3 net. The number of persons maintained at public expense in municipal institutions makes the question of economy in diet a matter that cannot be neglected by city officials. That the amount and quality of food may be left to individual feelings, if true in a state of nature when man had to secure his own food by physical exertion, is not true under a state of artificial civilization. The author was led to undertake his experiments by Mr. Horace Fletcher, who for five years had practiced great economy in diet with elaborate mastication; he lived on about 40 per cent. of the nitrogenous food allowed by the generally accepted "Voigt" standard. To ascertain the amount of daily proteid (nitrogenous)

food required, Professor Chittenden conducted experiments on three groups of men, professional men, students and soldiers. Throughout the experiments there was no restriction as to the particular kind of food, but the consumption of flesh food was greatly decreased. The result of the experiments showed that the proteid food was reduced without bad results from Voigt's standard of 118 grains to 36-54 amongst the professional group, to an average of 55 amongst the soldiers and an average of 62 amongst the students. Incidentally there was a reduction in the fuel capacity of the food. In the case of the experiments with the soldiers, conducted over a period of six months, the examining physician reported favorably on the resulting physical condition, and tests showed that the men had gained strength. In a general way the author appears to have proved that persons may live in perfect health, and even gain in strength on an amount of nitrogenous food equal to one-half or one-third of what is usually considered necessary.

## LEGAL NEWS

### A Summary and Notes of Recent Decisions —Rulings of Municipal Interest

#### Cancellation of Permit

**Morgensten vs. Herron.**—The Superintendent of the Electric Bureau of Pittsburg cancelled a permit for electric wiring on the ground that the work did not conform to a rule of the department. It appeared that the rule was not in force, and that the work was not dangerous and was satisfactory to the Board of Underwriters. Held that the permit could not be cancelled.—Common Pleas, Allegheny Co., Pa.

#### Municipal Waterworks

**Knoxville Water Co. vs. City of Knoxville.**—It is maintained that an agreement by a municipality to give a water company an exclusive franchise of thirty years, as against any other person or corporation, is not impaired by the establishment by the municipality of its own independent system of waterworks under subsequent legislative authority.—Supreme Court, Knoxville, Tenn.

#### Prior Appropriation

**Clark vs. Allaman.**—The doctrine of prior appropriation of water for irrigation purposes is held not to have existed in Kansas prior to the statute of 1886, expressly conferring such right.

#### Saloon License

**Carter H. Harrison vs. People ex rel. Raben.**—Held that where an ordinance authorizes the issuing of a license to keep a dram shop upon certain terms and conditions, the authorities authorized to grant the license cannot arbitrarily refuse the same nor discriminate between persons, places and regulations pertaining to the business without reasonable grounds therefor; that there is vested, however, in such authorities, unless expressly restricted by the language of the ordinance, a discretionary power which may be reasonably exercised in the granting or refusing to issue a license; that the Mayor in this case properly exercised that discretion in refusing a license for a dram shop near a school building.—Illinois Supreme Court.

## CONVENTION NOTES

**The Thirteenth Annual Convention of the American Society of Municipal Improvements.**—This convention was held at Birmingham, Ala., October 9th to 12th, and was one of the most successful in the history of the society. The interest of the members was divided between the papers presented, the exhibit of municipal supplies, and the excursions to points of interest in the city and vicinity.

### THE PAPERS

The first paper presented on Tuesday was entitled "Standard Thread for Fire Hose and Hydrant Couplings," by Alcide Chausse, of Montreal. "Yellow Fever Sanitation," by J. R. Hazlehurst, of Mobile, Ala., was read by the secretary, as the author was unavoidably absent. "The Municipal Control of Planting and Care of Shade Trees," by William Solotaroff, of East Orange, N. J., was followed by considerable discussion. A paper on "Municipal Conditions in Canada" was presented by Harry Bragg, of Montreal, editor of the *Canadian Municipal Journal*. Mr. Hugh Grosser, of Chicago, chairman of the Committee on Municipal Data and Statistics, was unable to be present or present a report, owing to his serious illness. On Wednesday evening two papers, illustrated by lantern, were listened to with great interest, one on "The New Orleans Water Works," by George G. Earle, general superintendent of the Sewerage and Water Board; the other, on "Chert Roads," by Professor Edgar B. Kay, of the University of Alabama. The feature of the latter, which most impressed a number of the members, was the statement that these roads do not wear into ruts, and that the chert is very hard, being, in fact, flint with an admixture of iron oxide as a binding material.

Thursday evening Julian Griggs, of Columbus, O., presented the report of the Committee on Waterworks and Water Supply; also a paper on "The Cost of Clearing and Grubbing a Reservoir Site," giving the items in detail for an area of more than 300 acres. R. K. Davis, of Detroit, Mich., read a paper on "The Street Railway Situation in Detroit," showing very completely the somewhat involved conditions there existing, and the efforts being made to better them by the city. On Friday morning T. C. Hatton, of Wilmington, Del., presented a paper on "Street Cleaning and the Disposition of Street Sweepings and Ashes," which contained many valuable data on the subject, the most striking conclusion from which was that hand-cleaning of streets was very much cheaper than machine-cleaning. All the papers presented at this session treated of streets and paving, and included "The Municipal Asphalt Plant of Hamilton, Ont.," by E. S. Barrow, of Hamilton; "The Pavements of Kansas City, Mo.," by E. A. Harper, of Kansas City; the report of the Committee on Street Paving, by James Owen, chairman; "Earth Settlement in City Streets," by Horace Andrews, of Albany, N. Y.; "Paving and Paving Materials of the Southwest," by Walter F. Reichardt, of Little Rock, Ark.; "The Tests of Other Woods than Yellow Pine for Block Pavements," by F. A. Kummer, of New York, and "Bituminous Pavements Containing Crushed Stone," by J. W. Howard, of New York.



## THE EXHIBITS

In a hall adjoining the other convention rooms, in the City Hall, were a number of exhibits which attracted much attention from all the members. On account of unforeseen and unpreventable circumstances, those finally in charge of working up this exhibit were given but a short time for doing so, and it undoubtedly suffered thereby; but, even so, it was no unimportant feature of the convention. The exhibitors were as follows: The Bitulithic Pavement, paving materials, sections of pavements, photographs of work, samples of Puritan sanitary flooring and of their slushing compound. A. L. Barber Asphalt Company, samples of Bermudez asphalt and photographs; the Birmingham City Laboratory, biological exhibit, cultures, etc.; the Reinforced Concrete Pipe Company, samples of 30-inch pipe and photographs; the MUNICIPAL JOURNAL AND ENGINEER; Graves Shale Paving Brick Company, of Birmingham, samples of brick and shale; American Wood Preserving Company, wood paving blocks; the Barrett Manufacturing Company, tarvia and photographs of tarviated roads; the Thompson Meter Company, assortment of water meters; the Southern Clay Manufacturing Company, paving brick and blocks, and photographs; the Southern Cement Company, samples of "Alabama Portland" and "Magnolia" slag cement; the Southern Sewer Pipe Company, pipes and other clay products.

## EXCURSIONS

On the second day of the convention the members, through the courtesy of the Commercial Club, were driven over the mountains to the pumping station of the city water works, thence back to the distributing reservoir and mechanical filter plant, where a barbecue dinner was served and the plant inspected. Incidentally, the pavements along the city part of the route were inspected and seen to be throughout of the very highest grade. On Thursday a trip by train was made, through the kindness of the Commercial Club, to many of the industries near Birmingham. The first stop was at North Birmingham, where the Dimmick Cast Iron Pipe Company's works, the Southern Cement Company's mill, and the Southern Sewer Pipe Company's plant were inspected. At Ensley, the next stop, more than an hour was spent at the steel plant and rail mill of the Tennessee Coal and Iron Company. At Bessemer a mine was visited, and an extensive view had of the country south of Birmingham. From here most of the party returned to the city, but a number drove to the septic tanks south of Bessemer, where is treated the sewage of Bessemer, part of Birmingham, and a few smaller communities.

## BUSINESS MEETINGS

The convention opened Tuesday afternoon with an address of welcome by Henry B. Gray, representing the Mayor, and this was replied to by President C. C. Brown, following which the President's annual address was delivered. The society adopted a recommendation of the standard hose coupling and hydrant nozzle, which was referred to in the MUNICIPAL JOURNAL a few weeks ago. It selected Detroit as the next place of meeting. The following officers were elected for the coming year:

President, Morris R. Sherrerd, of Newark, N. J.; First Vice-President, James Owen, of Montclair, N. J.; Second

Vice-President, Julian Kendrick, of Birmingham, Ala.; Third Vice-President, Fred Giddings, of Atchison, Kan.; Secretary, George W. Tillson, of Brooklyn, N. Y.; Treasurer, L. V. Christy, of Wilmington, Del.; Finance Committee, A. F. Eggers, of Newark, N. J.; T. C. Hatton, of Wilmington, Del., and Robert McCormick, of Detroit, Mich.

The following new members were elected: Edward B. Kay, Tuscaloosa, Ala.; P. W. Henry, New York; E. L. Dalton, Dallas, Tex.; Geo. P. Codd, Detroit; F. E. Murphy, Huntsville, Ala.; J. L. Ludlow, Winston-Salem, N. C.; Wright Smith, Mobile, Ala.; W. M. Wilson, Gadsden, Ala.; Francis H. Wright, Helena, Ark.; C. E. Leonard, Austin, Tex.; Nisbet Wingfield, Augusta, Ga.; William Solotaroff, East Orange, N. J.; Geo. S. Watson, Philadelphia, Pa.; R. H. McCormick, Detroit, Mich.; Allen R. Gilchrist, Montgomery, Ala.; J. K. Mitchell, Detroit, Mich.; W. J. Parkes, Pine Bluff, Ark.; Wm. F. Day, Detroit, Mich.; Ed D. Codwise, Kingston, N. Y.; R. W. Ball, Henderson, Ky.; Allen W. Dow, New York; Frank A. Hinds, Watertown, N. Y.; George G. Earle, New Orleans, La.; S. H. Weissleder, Cincinnati, O.; W. H. Gainly, Valdosta, Ga.; John M. Monie, Bonne Terre, Mo.; Geo. W. Fuller, New York; R. E. Meade, Birmingham, Ala.; Frank J. Bock, Newark, N. J.; Arthur R. Denman, Newark, N. J.; also eighteen associate members.

**Convention of Insurance Commissioners.**—The last annual meeting was held at the Arlington Hotel, Washington, D. C., October 11. The following officers were elected for ensuing year: President, Gen. George H. Adams, of New Hampshire; Vice-President, R. E. Folk, of Tennessee; Secretary, John J. Brinkerhoff, of Illinois.

A standard blank, adopted for the purpose of obtaining information, was considered one of the most satisfactory achievements of the convention. The rebate evil was explained: A special contract is offered some influential man with the understanding that he will work for the ends of the company in his locality.

**Fire Marshals' Convention.**—The following members were elected officers for the ensuing year at the last annual convention of the association, held in Washington, D. C., October 11: State Fire Marshal of Ohio, D. S. Creamer, President; State Fire Marshal of Maryland, Lloyd T. MacGill, Jr., Vice-President, and State Fire Marshal Edward Peterson, of Minnesota, Secretary and Treasurer. Provincial Fire Commissioner Albert Lindback, of Manitoba, Canada, was present and unanimously elected to membership of the association. The next meeting of the association will be held in Columbus, Ohio, on the first Tuesday in October, 1907. The resolutions adopted included legislation to prevent over-insurance, compulsory gas cut-offs on the outside of all buildings and uniform fire marshal laws, modeled after the law of Ohio.

**American Public Health Association.**—The next meeting of the American Public Health Association will be held in Mexico City, beginning Monday, December 3, 1906. (The Laboratory Section will meet on Saturday, December 1.) An excursion train will leave Chicago, Wednesday, November 21, at 3 P. M., St. Louis at 11:30 P. M., San Antonio, Friday at 10 P. M., Laredo, Saturday at 7 P. M. On Monday visits will be made to the cities of Zacatecas and Aguas Cal-

ientes; on Tuesday, Guanajuato and the Catcombs; on Wednesday, Puebla and the Pyramid of Cholula; on Thursday, Orizaba and Cordoba. Friday, November 30, to Thursday, December 6, will be spent in the City of Mexico. The return train will be due in St. Louis and Chicago on Sunday, December 9. The rate, including all expenses, except two meals a day in the City of Mexico, will be \$150 from Chicago.

## Calendar of Meetings of Municipal and Allied Societies

## October 16-18.

The Railway Signal Association.—Annual meeting, Washington, D. C.—H. S. Ballrett, Secretary, Grand Central Station, New York City.

## October 15-19.

American Street and Interurban Railway Association.—Annual convention, Columbus, Ohio.—B. V. Swenson, Secretary, 30 Wall street, New York City.

## October 16-18.

Association of Railway Superintendents of Bridges and Buildings.—Sixteenth annual Convention, Boston, Mass.—S. F. Patterson, secretary, Concord, N. H.

## October 16-18.

Southern New York Volunteer Firemen's Association.—Convention, Flushing, L. I.—J. H. Downing, Secretary, 130 Fleet street, Brooklyn, N. Y.

## October 17.

North Alabama Good Roads Association.—Convention, Birmingham, Ala.

## October 17-19.

American Gas Institute.—First Annual Meeting, Chicago, Ill.—Acting secretary, James W. Dunbar, New Albany, Ind.

## October 19-20.

New Jersey State and Local Boards of Health.—First Annual Conference, State House, Trenton, N. J.

## October 24-26.

American Civic Association.—Annual convention, Milwaukee, Wis.—Clinton Rogers Woodruff, Secretary, 703 North American Building, Philadelphia, Pa.

## October 29.

New Jersey State Firemen's Mutual Benevolent Association.—Convention, Atlantic City, N. J.—R. D. Bender, Secretary, 212 Halsey street, Newark, N. J.

## November 13-15.

Southern Immigration and Quarantine Conference, Nashville, Tenn.

## November 13.

New York State Conference of Charities and Corrections.—Seventh conference, Rochester, N. Y.—Walter E. Kruesel, Secretary, 105 East Twenty-second street, New York City.

## November 14-16.

International Congress on Tuberculosis.—New York City. (The principal purpose of the congress will be that of urging preventive legislation against tuberculosis, the adoption of municipal and government sanitariums and discussion of all the questions involved.)

## November 15.

National Society for the Protection of Public Health and Morals.—To be organized at Hudson Theater, New York City.

## November 15-16.

Deep Waterway Convention, St. Louis, Mo.—Hon. Henry T. Rainey, Secretary, Carrollton, Ill.

## November 15-17.

Mississippi State Firemen.—Convention to organize an Association, Hattiesburg.—Chief A. F. Potter, Secretary, Hattiesburg, Miss.

## December 3-4.

American Society of Refrigerating Engineers.—Annual meeting, New York City.—W. Everett Parsons, Secretary, 12 West 31st street, New York City.

## December 4-7.

American Society of Mechanical Engineers.—Annual meeting, New York City.—F. R. Hutton, 12 West 31st street, New York City.

## December 27-January 2, '07.

American Association for the Advancement of Science.—Annual meeting, New York City.—L. O. Howard, Secretary, Cosmos Club, Washington, D. C.

## January, '07.

American Institute of Social Service.—Exposition, New York City.—Dr. William H. Tolman, Director, 287 Fourth avenue, New York.

## TRADE NOTES

**ASPHALTIC MASTICS.**—The Vulcanite Paving Company, 11 Broadway, New York City, in a neat booklet, calls attention to the value of asphalt mastics generally, claiming it is superior to cement work wherever waterproof qualities are desired. Superiority is claimed over the general run of imported mastics because the company's product is designed to stand the American climate without cracking or flowing. To scientific methods of manufacture, under the direction of chemical engineers, is attributed the success of the product.

**CEMENT COMPANY.**—The Universal Portland Cement Company, a new subsidiary company of the United States Steel Corporation, has taken over the Cement Department of the Illinois Steel Company. Edward M. Hagar, the president of the new company, has his headquarters in the Rookery, Chicago.

**CURRENT METER.**—The Pittsburg Meter Company, East Pittsburg, Pa., has recently placed on the market the "Eureka," a meter of the velocity or inferential type, especially designed for measuring large and swift currents of water without unduly retarding the flow; the water coming in contact with the vanes of the wing wheel or piston, causes the piston to revolve in a horizontal plane with a speed proportional to the velocity of the flow. Circular or straight reading dials are furnished to register any unit of liquid measurement desired. The 2-inch meter has a maximum capacity of 240 gallons per minute and the 12-inch meter, 8,640 gallons.

**ELECTRICAL EQUIPMENT.**—Bulletin No. 444I-8 of the General Electric Company, Schenectady, N. Y., illustrates and describes subway transformers, railway motors, motor-driven air compressors, Curtis steam turbine generators and small polyphase motors.

**FIRE ENGINEERS' HANDBOOK.**—The Fabric Fire Hose Company, 68 Murray street, New York City, has published a Handbook for Fire Engineers. The book contains some useful tables on hydraulics and instructions regarding first aid to the injured.

**SPECIALTIES IN CONCRETE.**—The American Hydraulic Stone Company, in its recent catalogue, describes some interesting specialties. A wall made of concrete brick and backed up with specially shaped brick, tied with metal ties in the mortar joint, is claimed to make a hollow wall impervious to moisture, at a much less expense than ordinary brick construction. A concrete paving block,  $4 \times 4\frac{5}{8} \times 8\frac{5}{8}$ , consisting of one part cement to seven of aggregates, very wet, under a pressure of 100,000 pounds, is said to make a block equal to natural stone.

## Binding Cases

FOR THE

MUNICIPAL JOURNAL  
AND ENGINEER

may be obtained from the

MUNICIPAL PUBLISHING COMPANY  
FLATIRON BUILDING, NEW YORK CITY

PRICE, 50 CENTS EACH



## Four-way adjustable street signs with reinforced steel tube posts and sheet metal perforated signs

These signs are indestructible by the elements, do not rust or corrode, and can be read from a long distance and at any angle you approach them. Adjustable to the intersections, will carry as many signs as are needed for additional intersections. Write for catalogue. We contract with municipalities for signs and house numbering.

AGENTS WANTED in EVERY STATE in the UNITED STATES to REPRESENT OUR LINE. Send for Catalogue.

Perforated house numbers in any finish a specialty  
**THE AMERICAN STREET SIGN CO.**  
CLYDE, OHIO

"CINDER IRON" or other INFERIOR GRADES of METAL, referred to in all Cast Iron Pipe specifications are produced by Puddling Mills, Rolling Mills, etc., in the form of "Scrap." There are none of these Mills within hundreds of miles of us, but a dozen or more BLAST FURNACES, which, in the words of one of the most eminent metallurgists of our country, "yield foundry iron of unusual excellence and wide reputation," are located right in our "back yard."

OUR CATALOG WILL BE MAILED ON REQUEST.

MAIN OFFICE AND WORKS  
LYNCHBURG, VA. **McWANE PIPE WORKS** EASTERN OFFICE  
220 BROADWAY  
NEW YORK

## Corson Storm Sewer Trap

## FOR OLD OR NEW INLETS

Positively Prevents Dangerous Gases from Reaching the Street.

Saves Cost of Deep Laterals.

Constructed of Cast Iron or Vitrified Fire Clay.  
Let Me Send Prices and Discounts.

**S. CAMERON CORSON, C.E., Patentee**  
City Hall, Norristown, Pa.

The city of Annapolis, Md., has subscribed for eight yearly subscriptions to the MUNICIPAL JOURNAL AND ENGINEER, New York City.



## What Is Daus' Tip-Top?

To Prove that Daus' "Tip-Top" is the best and simplest device for making **100 Copies** from pen written and **50 Copies** from typewritten original, we will ship complete duplicator, cap size, **without deposit on ten (10) days' trial.** Price \$7.50 less trade discount 33 1/3% or **\$5 net.** THE FELIX H. A. DAUS DUPLICATOR CO., Daus Building, 111 John Street, N. Y. City

## Southern White Cedar Poles

ANY LENGTH OR QUANTITY

For Town or City Electric Light Plants

**Southern Exchange Co.** 97 Warren St., N. Y.



## PATENT CLAIMS

831,225.—Aerial Ferry. Samuel B. Harding, Waukesha, Wis. Serial No. 325,816.

An aerial ferry comprising, in combination, an elevated span, means for supporting said span at two points on opposite sides of its center, said span having an end overhanging said supporting means, and an approach-span having a roadway, and to which said overhanging end is anchored, whereby a portion of the stress on the center of said elevated span is relieved.

831,296.—Manufacture of Artificial Stone. James Purvis, Bowe's Park, and Thomas Rouse, Stamford Hill, England. Renewed April 5, 1906. Serial No. 310,140.

The herein-described method of making artificial-stone articles, which consists in mixing unslaked lime with silicious material by subjecting the said materials to a rotary taking action, and while said materials are intermingled in an agitated condition subjecting the same to the action of steam in a quantity sufficient for hydrating only, molding the resulting mixture into the shape desired and then subjecting the molded article to steam, substantially as described.

831,462.—Fire-Escape. Joseph N. Noyer, Gould City, Wash. Serial No. 309,446.

A fire-escape apparatus comprising a frame or support, a windlass mounted therein, a shaft journaled in said frame, a train of gearing between the latter and said windlass, a collar or sleeve slidably but non-rotatably mounted upon said shaft, spring-strips connected to said collar and to said shaft, centrifugal weights upon said strips, a friction-disk carried by said sleeve or collar, and a stationary friction brake device carried by said frame and spaced therefrom to coast with said friction-disk, substantially as described.

831,481.—Constructing Piers. Frank Shuman, Philadelphia, Pa. Serial No. 204,238.

The mode herein described of constructing a pier, said mode consisting in first driving or sinking a succession of tubes or hollow piles to form a pier-casing, removing down to foundation the material within said casing, then filling the space within the casing with concrete, masonry, or other material of which the pier is to be composed, and securing the same to the casing so that the latter remains as a sheathing or protection for the pier.

831,634.—Alarm-system Apparatus. Richard F. Spamer, Chicago, Ill., assignor to Consolidated Fire Alarm Company, New York, N. Y., a corporation of New York. Serial No. 279,841.

In an alarm-system apparatus, a signal-wheel, mechanism for driving said wheel, means for normally restraining said mechanism, an electromagnetic device controlled by a local circuit for releasing said restraining mechanism, and a drum rotatable with said mechanism coacting with said restraining means whereby the restraining means may be released upon interference with the normal condition of the local circuit and remain released during the continued abnormal condition of the local circuit through a part only of the rotation of said drum, and automatically again restrain said mechanism upon the restoration of the normal condition of said local circuit.

831,658.—Concrete-mixer. Henry Ericsson, Chicago, Ill. Serial No. 251,895.

A device of the kind described, comprising a trough, in combination with a plurality of plows extending from alternate sides thereof toward the opposite side, and inclined backward from the bottom and adjacent sides of the trough, means for moving said plows longitudinally of said trough, and means for directing material into said trough.

831,659.—Voting-machine. Wilson L. Fenn, Hartford, Conn., assignor to Triumph Voting Machine Company, a Corporation of New Jersey. Serial No. 225,637.

In a voting machine, the combination with a flexible member mounted to have a predetermined amount of slack, of a series of voting members having projections movable toward and from said flexible member to take up the slack thereof, and a slide extending in proximity to said projections and having means engaging said projections and for positively resetting any voting member that has been actuated.

831,873.—Apparatus for Purifying Natural Water. Frank Julian, St. Paul, Minn. Serial No. 302,989.

In an apparatus for purifying water, a tank for containing a chemical solution, a receiver outside of the tank and communicating with the liquid to be purified, a feed-tube open at both ends and mounted to slide in the tank and in the receiver, and means controlled by the water to be purified for lowering the tube in the receiver, whereby to gradually feed the contents of the tank to the liquid to be purified.

## Proposals

### Pumping Engine

#### NOTICE TO CONTRACTORS.

Decatur, Ill.  
Sealed bids will be received by the undersigned until 8 o'clock P.M., October 29th, 1906, for furnishing a Compound Condensing Vertical or Horizontal Pumping Engine, of a capacity of six million gallons per day of twenty-four hours, for the Waterworks system of the City of Decatur, Illinois.

Form of Contract and Specifications can be seen or obtained at the office of the undersigned, or at the office of Daniel W. Mead, Consulting Engineer, First National Bank Building, Chicago, Illinois.

A certified check on some responsible bank in the City of Decatur, Illinois, for twenty-five hundred (\$2,500.00) dollars, payable to F. L. Robbins, Comptroller of the City of Decatur, must accompany each bid. The right is reserved to reject any or all bids.

ALBERT LEACH,  
City Clerk.

### Sewers—Pumping Station

Plainfield, N. J.  
Owing to error in advertising, all bids received by the Common Council of the City of Plainfield on October 1, 1906, were returned unopened.

New proposals will be received on Monday, October 22, 1906, at 8 P.M., for the construction of sanitary sewers and pumping station, including: 6,265 feet 8-in. vitrified pipe sewer; 6 to 10 feet deep; 3,345 feet 8-in. cast-iron sewer, 6 to 14 feet deep; 1,230 feet 10-in. cast-iron sewer, 6 to 14 feet deep; 2,010 feet 12-in. cast-iron sewer, 6 to 12 feet deep; 1,000 feet 14-in. cast-iron sewer, 6 to 12 feet deep; 205 branches on vitrified pipe sewer; 12 crosses on cast-iron sewers; 31 manholes; 9 flush-tanks; 500 feet 4-in. cast-iron house connections; 3 drop connections; 2,500 feet 8-in. cast-iron force main. Underground operating chamber for ejectors or displacement pumps.

Also (in same proposal or in separate bid), pumping plant, including electric motors, compressors, ejectors or displacement pumps and gasoline engine.

A certified check for \$300 to accompany each bid. The total amount of bond required will be \$7,500; \$2,500 for pumping plant alone, and \$5,000 for sewers, appurtenances and operating chamber. Work to be completed June 30, 1907.

JAMES T. MACMURRAY,  
City Clerk.

ANDREW J. GAVETT,  
City Surveyor.

### Bridge Superstructure

Winnipeg, Can.  
Sealed proposals addressed to Alderman J. G. Latimer, Chairman, Committee on Works, for erection of steel superstructure for Highway Bridge over the Red River at Redwood Avenue, Winnipeg, will be received at the office of the undersigned up to 2.30 P.M., on Tuesday, November 20, 1906.

Plans, specifications and forms of proposal may be obtained at the office of Col. H. N. Rutten, City Engineer, Winnipeg, Canada.

Each bid must be accompanied by an accepted cheque or draft payable to the order of the City Treasurer, or cash deposit for a sum equal to 5 per cent. of the total amount of the bid, which will be subject to forfeiture in case of failure on the part of the contractor to enter into a written contract with approved sureties if called upon to do so.

The City reserves the right to reject any or all tenders or to accept any bid which appears advantageous to the City of Winnipeg.

C. J. BROWN, City Clerk.

### Subway Substructure

#### NOTICE TO CONTRACTORS.

Tenders will be received by registered post only, addressed to the Chairman of the Board of Control, City Hall, Toronto, Ontario, up to noon on Tuesday, Nov. 6, 1906, for the Lansdowne Avenue Subway substructure. Envelopes containing tenders must be plainly marked on the outside as to contents.

Drawings may be seen, and specifications and forms of tender obtained at the office of the City Engineer, Toronto, Ontario, upon application.

The usual conditions relating to tendering, as prescribed by city by-law, must be strictly complied with.

The lowest or any tender not necessarily accepted.

E. COATSWORTH (Mayor)  
Chairman Board of Control.  
City Hall, Toronto, Sept. 27, 1906.

### Auditorium Building

Sealed proposals will be received until eleven o'clock A.M., Mountain time, Wednesday, October 24th, 1906, at the office of the Board of Public Works, City Hall, Denver, Colorado.

The work includes the furnishing of all labor and materials for the erection and completion of the Auditorium Building, in accordance with the drawings and specifications, made by Robert Willson, Architect, 311 Colorado Building, Denver, Colorado. All proposals must be indorsed, "Proposals for building the Auditorium Building of the City and County of Denver, Colorado," and must be accompanied by a draft or bank cashier's check of five thousand (\$5,000.00) dollars, made payable to the Treasurer of the City and County of Denver. After bid shall have been rejected or the contract signed and the bond executed and delivered, such draft, deposit or check will be returned. In case the successful bidder shall fail to sign the contract and execute and deliver the bonds within ten (10) days after receiving notice so to do, such deposit shall be forfeited to the City and County of Denver. The Board of Public Works expressly reserves the right to reject all proposals or bids. Copies of the drawings and specifications may be examined by contractors at the office of the Architect. Copies of drawings and specifications will be furnished to contractor by said architect upon payment of twenty (\$20.00) dollars, all of which will be refunded upon the return of said copies with bid.

By order of the Board.

G. E. RANDOLPH,  
President Board of Public Works.

### Fireproof Building

Office of the Constructing Officer for the U. S. Soldiers' Home (P. O. Box 455), Washington, D. C., Sept. 1, 1906. Sealed proposals for furnishing plant, labor and materials and completely erecting and finishing a fireproof, marble-faced Mess Hall and Dormitory Building at the United States Soldiers' Home at Washington, D. C., will be received at this office until 2 o'clock P.M., October 23, 1906, and then publicly opened. Bids will be received upon each separate item of work, such as millwork, joinery, furnishing of cut stone, etc., but alternative bids will also be received for furnishing all labor and materials under one contract. Contracts for heating, plumbing, and electrical wiring are already let. Specifications, blank forms and all available information will be furnished on application to this office. A deposit of twenty-five dollars (\$25) will be required for drawings and specifications for each separate item of the contract for which drawings are required; this will be returned upon return of plans and specifications. John Stephen Sewell, Captain, Corps of Engineers, Constructing Officer.

### Railway Tunnel

Royal Arms.  
New Zealand Midland Railway.

Fresh alternative tenders will be received at the office of the High Commissioner for New Zealand, Westminster Chambers, 13 Victoria Street, London, S. W., for the construction of a tunnel about 5 miles 25 chains in length, at Arthur's Pass, through the dividing range between Canterbury and Westland, on the route of the New Zealand Midland Railway. They are to be addressed to the High Commissioner for New Zealand, and marked on the outside "Tender for Arthur's Pass Tunnel." Tenders will be received up till noon of Monday, 18th March, 1907.

Plans, specifications and conditions may be seen and tender forms and other information obtained from Mr. Virgil G. Bogue, Consulting Engineer, 15 William Street, New York. The lowest or any tender will not necessarily be accepted.

P. S. HAY,

Engineer-in-Chief.

Public Works Office, Wellington, N. Z.

### Jamestown Exposition Pier

U. S. ENGINEER OFFICE, 22nd and K Sts., N. W., Washington, D. C., Sept. 27, 1906. Sealed proposals for constructing government pier, Jamestown Exposition, Hampton Roads, Va., will be received here until 12 M., October 22, 1906, and then publicly opened. Information on application. Blue prints may be seen here, at U. S. Engineer Offices at New York, Philadelphia, Chicago, Buffalo, St. Louis and Boston, and at office of Board of Design, Jamestown Exposition Co., Norfolk, Va. E. J. DENT, Lieut., Engineers.

## THE CUTLER MAILING SYSTEM AFFORDS INVALUABLE MAIL SERVICE FOR PUBLIC BUILDINGS

IN USE IN MUNICIPAL, COUNTY, STATE AND FEDERAL BUILDINGS THROUGHOUT THE COUNTRY, BEING EXPLICITLY AUTHORIZED BY THE POST OFFICE DEPARTMENT UNDER PROVISION OF A SPECIAL ACT OF CONGRESS. AS A PART OF THE POSTAL SYSTEM IT IS AVAILABLE FOR THE SERVICE OF SUCH PAPERS AS MAY BE LEGALLY SERVED THROUGH THE MAILS.



MODEL C, OPEN

WHERE THE STANDARD AUTHORIZED MAIL CHUTE EQUIPMENT IS DESIRED, THE CUTLER MAILING SYSTEM SHOULD BE SPECIFIED BY NAME.

DESIGNATE "MODEL C" IF THE VERY LATEST AND BEST FORM AS ILLUSTRATED HERewith IS REQUIRED. INTERIOR UNDER GOVERNMENT LOCK BUT INSTANTLY ACCESSIBLE TO AUTHORIZED PERSONS.

INSTALLED IN CONNECTION WITH THE U. S. FREE COLLECTION SERVICE ONLY BY THE SOLE MAKERS AND PATENTEES.

**THE CUTLER MANUFACTURING CO.**  
GENERAL OFFICES, CUTLER BUILDINGS, ROCHESTER, N. Y.

## HIGH GRADES OF Natural Asphalt



**The A. L. Barber Asphalt Co.**  
17 Battery Place, NEW YORK

## JUST PUBLISHED ENGINEERING WORK IN TOWNS AND SMALL CITIES

BY  
ERNEST McCULLOUGH

Contains the results of 20 years' experience in municipal work; over 50 pages of valuable tables, diagrams, formulas, etc.; 400 pages, handsomely bound in cloth. Partial list of contents is as follows:  
ROADS AND STREETS—General Discussion—Parked Roadways—Grades—Grade Ordinance—Pipe Laying Regulations.  
SANITATION—Dangers of Filth—Bacterial Action—Garbage Disposal—Street Cleaning—Definition of Terms.  
DRAINAGE—Gutters—Flumes—Pipes—Inlets and Catch Basins—Materials for Drains and Sewers.

PRICE, \$3.00, POSTPAID.

Municipal Journal and Engineer  
FLATIRON BUILDING, NEW YORK

## Producer Gas and Gas Producers

BY  
SAMUEL S. WYER

The latest and most thoroughly complete treatise on the subject of gaseous fuels. The use of fuel gas has attracted considerable attention for many years, and the important advances and industrial developments made therein will be found minutely detailed in this intelligent volume. The author is acknowledged by the profession to be one of the highest experts on the question.

Chapters	
V	Status of Producer Gas.
VI	Classification of Gas-Producers.
VII	Manufacture and Use of Producer-Gas.
VIII	Use of Steam in Gas-Producers.
IX	Carbon Dioxide in Producer-Gas.
X	Efficiency of Gas-Producers.
XI	Heat Balance of the Gas-Producer.
XII	Fuel.
XIII	Requirements.
XIV	History of Gas-Producers.
XV	American Pressure Producers.
XVI	American Suction Gas-Producers.
XVII	Gas Cleaning.
XVIII	By-Product Gas-Producers.
XIX	By-Product Coke Oven Gas-Producers.
XX	Producer-Gas for Firing Ceramic Kilns.
XXI	Producer-Gas for Firing Steam Boilers.
XXII	Wood Gas-Producers.
XXIII	Removal of Tar from Gas.
XXIV	Gas-Producer Power-Plants.
XXV	Operation of Gas-Producers.
XXVI	Testing Gas-Producers.
XXVII	Future of the Gas-Producer.
XXVIII	Gas-Poisoning.
XXIX	Reference Data.

Crown octavo Cloth, profusely illustrated, including numerous Working Drawings.

PRICE \$4.00 (17 s) Postpaid

**MUNICIPAL JOURNAL AND ENGINEER**  
Flatiron Building, N. Y.

# \$33

From Chicago to

## North Pacific Coast Points

Daily until October 31, 1906

To Helena and Butte, \$30; Spokane and Ellensburg, \$30.50;  
Portland, Tacoma, Seattle, Ashland, Ore., Vancouver  
and Victoria, B. C., \$33

Splendid opportunities in Montana, Idaho, Washington, and Oregon. Secure a home in the great farming districts. Enormous yields. Climate mild and pleasant. Fast Through Service. Liberal Stopovers. PULLMAN TOURIST SLEEPING CARS. For information and printed matter describing lands and business openings, write C. W. MOTT, G. E. A., St. Paul. For full details, train service, etc., apply to

W. F. MERSHON, Gen. Agt. Pass. Dept.  
319 Broadway, New York City



**Northern Pacific Railway**  
St. Paul and Minneapolis to the Pacific Northwest  
A. M. CLELAND  
General Passenger Agent  
St. Paul, Minn.